

# Chapter 9

## The Use of Cash in Germany: Status and Outlook

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**Abstract** Due to the rising reluctance towards cash because of its inferred connection to criminal activity, a thorough examination of why cash is still the preferred payment option in Germany becomes mandatory. As a result of financial and political uncertainty, cash is still highly demanded as a means of payment, as well as a store of value, although it only plays a minor role regarding transactions involving larger payment amounts.

However, external effects, such as the cohort effect, still need to be reviewed. It is not clear whether the younger generations will use cash as frequently as the older generations.

A substantial argument for abolishing cash seems to be its high costs, but there is no evidence that other payment options are significantly less expensive. Moreover, the high circulation of higher banknotes in other countries creates doubts that an issuance stop of the 500 € banknote will lead to a significant decline in illegal activities. In addition, cashless payment options are also used for tax evasion or the financing of terrorism. Cash allows for data protection and operates as a back-up solution if cashless systems fail.

Lastly, it is of huge importance to analyse the advantages of cash as performed in this chapter before making imprudent assumptions about the declining influence of cash.

### 9.1 Introduction

Representatives of politics, academia and the finance industry are currently engaged in a “War on Cash”. This alliance argues that cash is technologically outdated, and that limiting its use would lead to more efficient payment transactions. Moreover, according to some cash sceptics, reducing the availability of

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All views expressed are those of the author and do not necessarily reflect the position of the Deutsche Bundesbank.

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cash would help to reduce tax evasion, crime and terrorism. Cash users, however, are unimpressed by these arguments against cash, and continue to use it as a means of payment and as a store of value. After all, in the eyes of its users, cash is easy, quick and safe to use—and it is safe central bank money that, by definition, is not subject to a default risk.

The following chapter expresses some views on this currently ongoing debate. It begins with some background information on the demand for cash in Germany, likewise covering selected studies on payment behaviour. Next, the costs of retail payment instruments, with a particular focus on cash, are discussed. The chapter continues by offering views on the current debate about the introduction of caps on cash payments, as well as the ECB decision to stop the issuance of the 500 € banknote around the end of 2018. At the end, an answer to the question of whether cash has a future in Germany is attempted.

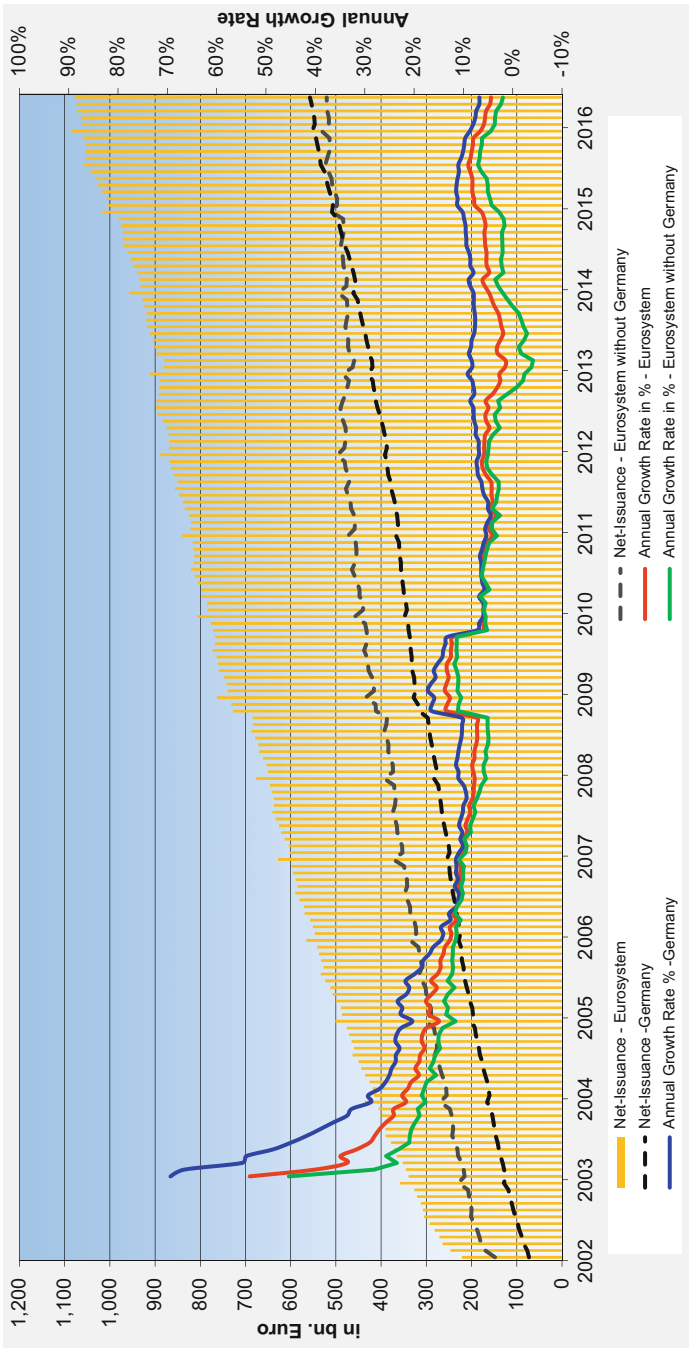
## 9.2 Motives for the Demand for Cash

The number of euro banknotes and coins issued by the Eurosystem has been rising continuously since 2002 with positive, yet narrowing, annual growth rates above the rate of inflation. Cash demand has risen from 234 billion euro at the end of January 2002, to 1153 billion euro at the end of 2016. Of the total volume of euro banknotes in circulation, which amounts to 1126 billion euro, more than 592 billion euro, i.e., just over the half, was issued by the *Bundesbank*. Estimates suggest that around 70% of the banknotes issued by the *Bundesbank* have migrated abroad to other euro-area countries or to countries outside the euro-area. It is estimated that consumers in Germany hoard 25% of the issued banknotes and only use around 5–10% for transaction purposes. Hence, at most, 10% of the total value of the banknotes issued by the *Bundesbank* is related to the use of cash as a means of payment in Germany.<sup>1</sup>

Two specific shifts in the demand for euro banknotes are noticeable: first, the enormous increase in the demand for cash during the wake of the Lehman crisis at the end of 2008, and second, a significant rise in the demand for cash, particularly in Germany, since 2012. These developments are related to uncertainty about the stability of individual credit institutions, as occurred in 2008, and to concerns about the health of the banking system as a whole or to political uncertainties.

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<sup>1</sup>These figures are derived from the extrapolation of estimates published in Nikolaus Bartzsch, Gerhard Rösl and Franz Seitz, Foreign demand for euro banknotes issued in Germany: estimation using direct approaches, *Deutsche Bundesbank* Discussion Paper, Series 1: Economic Studies, No 20/2011, and Nikolaus Bartzsch, Gerhard Rösl and Franz Seitz, Foreign demand for euro banknotes issued in Germany: estimation using indirect approaches, *Deutsche Bundesbank* Discussion Paper, Series 1: Economic Studies, No 21/2011. See, also, the summary in *Deutsche Bundesbank*, Foreign demand for euro banknotes issued in Germany, Monthly Report, January 2011, pp. 29–41.



Banknotes in circulation in Germany and the Eurosystem. Source: Deutsche Bundesbank, own chart based upon information provided by ECB, Currency Information System (CIS2)

Since 2008, the *Bundesbank* has been carrying out studies on payment behaviour in Germany at 3-year intervals.<sup>2</sup> Cash is by far the most commonly used means of payment made at the Point-of-Sale (PoS) in Germany. Consumers use cash to settle almost 80% of all payment transactions. In terms of value, more than 53% of all transactions are settled in cash at the PoS in Germany. Nevertheless, there is a continuous and slow decline of just over half a percentage point per year in the share of payments in terms of value settled in cash at the PoS. Given the more intensive use of the Internet, the share of cash by value had temporarily fallen somewhat more strongly between 2008 and 2011 by 4.8% points. However, by 2014, it stabilised at the level of 2011. Measured in terms of the number of transactions, the decline by 3.4% points over the period from 2008 to 2014 was slightly weaker.

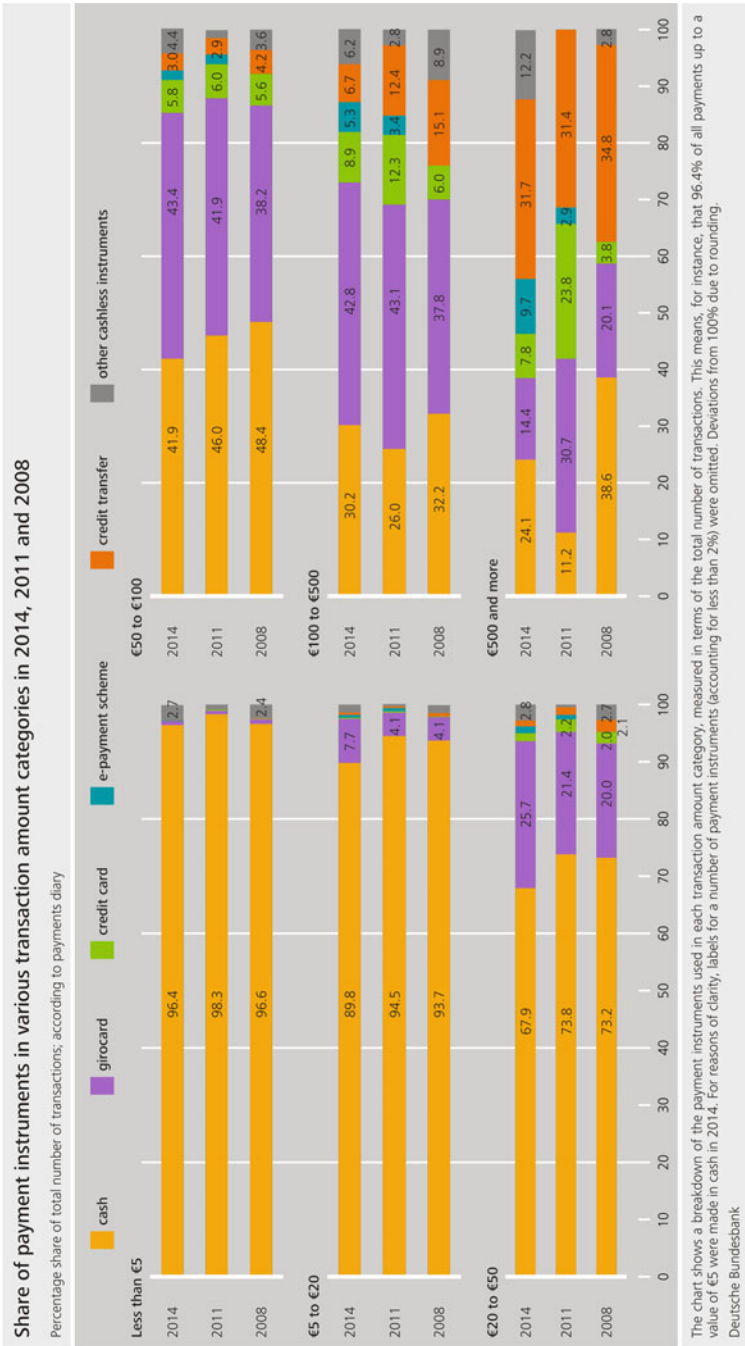
Payment instruments	Breakdown by turnover (in %)			Breakdown by number of transactions (in %)		
	2014	2011	2008	2014	2011	2008
Cash payment	53.2	53.1	57.9	79.1	82.0	82.5
Girocard (with PIN and ELV)	29.4	28.3	25.5	15.3	13.4	11.9
Credit card	3.9	7.4	3.6	1.3	1.8	1.4
Credit transfer	5.3	8.2	8.9	1.0	1.3	1.8
Direct debit	3.0	0.7	1.9	0.5	0.3	0.6
E-payment scheme	2.8	1.7	0.3	0.9	0.7	0.1
Contactless card payment	0.1	0.1	---	0.1	0.0	---
Store card	0.1	0.1	0.2	0.0	0.1	0.1
Prepaid payment card	0.0	0.1	0.6	0.0	0.2	0.7
Payment via mobile phone	0.0	0.0	---	0.0	0.0	---
Others	0.1	0.2	0.4	0.1	0.1	0.2
Cashless payment, instrument not stated	2.3	---	---	1.7	---	---
<b>Total</b>	<b>100</b>	<b>100</b>	<b>99</b>	<b>100</b>	<b>100</b>	<b>99</b>

Percentage share (2008): does not add up to 100% due to payment instrument not stated.

Transaction cash—use of payment instruments. Source: Deutsche Bundesbank, Study “Payment behaviour in Germany in 2014”, p. 27

Over 90% of low-value payments up to an amount of 20 euro are settled in cash, and, up to a value of 100 euro, cash is used almost just as frequently as debit cards. Only for larger payment amounts do cashless payment instruments play a dominant role.

<sup>2</sup>See *Deutsche Bundesbank* (2015), “Payment behaviour in Germany in 2014 – third study of the utilisation of cash and cashless payment instruments”, *Deutsche Bundesbank* (2012), “Payment behaviour in Germany in 2011 – an empirical study of the utilisation of cash and cashless payment instruments”, and *Deutsche Bundesbank* (2009), “Payment behaviour in Germany—an empirical study of the selection and utilisation of payment instruments in the Federal Republic of Germany”.



Payment behaviour recorded in payments diary. Source: Deutsche Bundesbank, Study "Payment behaviour in Germany in 2014", p. 31

Cashless payment instruments are primarily used by middle-aged consumers with a higher income and a higher level of education. Cash is also situated within this segment and is used in nearly every second transaction. The younger generation, which is even more technically informed and more familiar with cashless instruments, use cash more frequently (48%) than girocards (32%). The rest is shared by credit cards, e-payments, credit transfers and other payments. An explanation for this might be that the younger generation does not have the necessary resources at its disposal and that its users prefer locations typically linked with low value payments, such as pubs, cafes and discotheques. Of all generations, it is especially the older consumers who prefer to pay in cash (61%).

This raises a first important question with regard to the future of cash: Is there a cohort effect, i.e., do consumers adhere to their accustomed payment habits and will cash users gradually become extinct as they pass away? Or does one's payment behaviour change over time as the younger or middle-aged technology-savvy generation becomes overwhelmed by new technological innovations and consequently reverts back to simple means of payment, such as cash?

### 9.3 The Cost of Cash

A question that repeatedly emerges in connection with the future of cash in Germany is the cost factor. Or, to put it bluntly, is cash so expensive that its days are numbered? Most studies show considerable differences with regard to the quantified costs of different payment instruments, sometimes within countries, but particularly across countries. This applies concerning the costs per transaction as well as the costs broken down by turnover or GDP.<sup>3</sup> Based upon the results of these studies, it is not clear how much cash actually costs and whether it is always more expensive than cashless payment instruments, irrespective of the type of transaction or transaction amount.

A study carried out by the ECB is more coherent as it applies the same methodology across various countries.<sup>4</sup> Here, the costs across all payment instruments range between 0.42% and 1.35% of GDP. According to this study, cash, which costs 0.42 euro per transaction on average, is significantly cheaper than debit card payments, at 0.70 euro, and credit card payments, at 2.39 euro. This seems to

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<sup>3</sup>See Malte Krüger and Franz Seitz (2014), "Costs and benefits of cash and cashless payment instruments – overview and initial estimates", pp. 57–61, study commissioned by the *Deutsche Bundesbank*.

<sup>4</sup>See Heiko Schmiedel, Gergana Kostova and Wiebe Ruttenberg (2012), The social and private cost of retail payment instruments – a European perspective, ECB Occasional Paper Series 137. The national central banks of the following countries took part in the study: Denmark, Estonia, Finland, Greece, Hungary, Ireland, Italy, Lithuania, the Netherlands, Portugal, Romania, Spain, and Sweden.

be plausible, as cash has relatively low fixed and relatively high variable costs, whereas the opposite applies for cashless payment instruments.

In 2003, the German banking industry estimated its costs of cash to be around 6.5 billion euro.<sup>5</sup> A study conducted by Wincor-Nixdorf in 2009 estimated the costs of cash for the banking sector to be less than 4 billion euro.<sup>6</sup> At the *Bundesbank* cash symposium in 2014, the President of the German Savings Banks and Giro Association, Ludger Gooßens, put the cost of cash for the institutions belonging to this association at about 1 billion euro.<sup>7</sup> Because the saving banks are responsible for around 50% of all cash transactions of all the credit institutions, the total amount of costs for this sector seems roughly estimated at around 2 billion euro. This means, if the estimations are correct, that the credit institutions reduced their internal costs during the last couple of years in a distinct way.

For the retail sector, EDEKA, one of the large supermarket chains in Germany, reports costs for the whole cash handling of 0.14% of its turnover and 0.47% for giro card payments.<sup>8</sup> With the exception of the Wincor-Nixdorf study cited above, which estimates the cost to be around 7 billion euro, there are no published empirical studies available for the retail trade sector. The European Commission has also tried to quantify the costs of the various payment instruments for retailers by a questionnaire. As a consequence, the interchange fees were capped, aiming on more competition between cash and cashless instruments. This suggests that cash is not the most expensive method of payment for the retail trade sector.

It is, in any case, unclear whether a cashless society would really lead to lower costs for consumers and retailers. After all, for a long time, technological progress had not resulted in a reduction of fees, i.e., for debit cards paid by retailers and therefore costs for consumers. Costs did not fall until the Federal Cartel Office became involved and large retail chains used their market pressure only to accept cards if the fees were reduced. Handing over the responsibility for payment completely to private institutions might well give some providers a dominant market position. Potentially, this could lead to higher costs for both consumers and retailers.

As an interim summary, the following conclusions can be drawn. Cash is expensive, but it is doubtful, to say the least, that other payment instruments are significantly cheaper. The factors that affect costs are primarily time-related components, meaning the total time required to carry out the actual payment transaction at the PoS, multiplied by the wage costs for cashiers and the number of transactions.

<sup>5</sup>See Zentraler Kreditausschuss (ZKA): Towards our Single European Cash Area (SECA), The National Cash Plan for Germany, 2004, p. 7.

<sup>6</sup>See <http://www.wincor-nixdorf.com/static/finanzberichte/2008-2009/q4/de/dasunternehmen/cashcyclemanagement.html>, last accessed 22 July 2016.

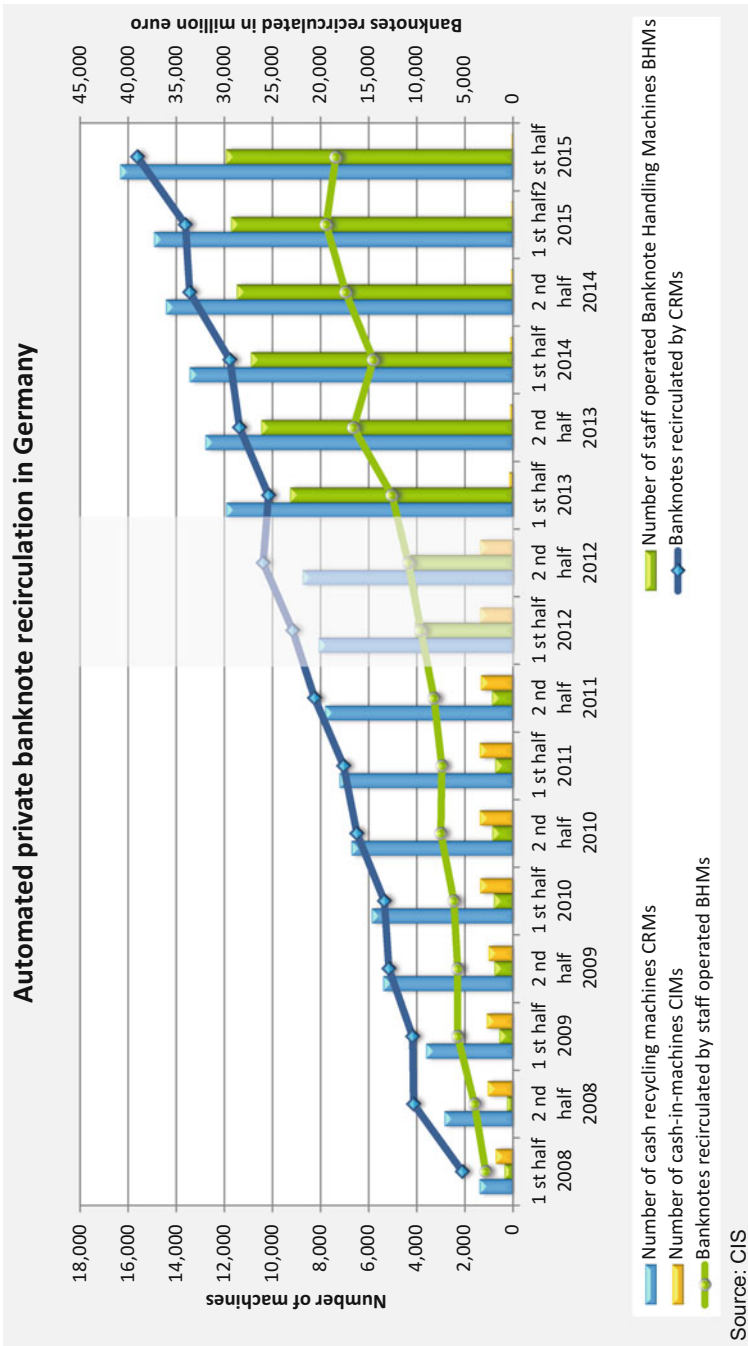
<sup>7</sup>See Ludger Gooßens (2014), “Optimal bezahlen – Wo steht das Bargeld?”, pp. 55–64 in the proceedings of the *Deutsche Bundesbank* cash symposium 2014.

<sup>8</sup>See <http://www.derhandel.de/news/finanzen/pages/shop.phd>, last accessed 2 February 2012.

These cost factors are likely to be similar for both cash and cashless payment instruments.

Moreover, credit institutions have started to reduce their infrastructure costs in recent years. For example, the level of automation can be explained by the number of cash recycling machines and the number of processed banknotes. These machines check the lodgements of clients, separate unfit banknotes as well as counterfeit notes from circulation and offer other clients the checked cash for withdrawals. The number of cash recycling machines has significantly risen from less than 2000 in the beginning of 2008 to more than 16,000 at the end of 2015. In addition, the back office recycling with staff operated machines has also increased over the last couple of years, albeit not at the same speed as the cash recycler. This automisation reduces the number of transport and additional external processing steps in a central bank or a private cash centre. Round about 18% of banknotes or 3.6 billion banknotes were recycled in 2015 by these machines in credit institutions.





Banknote re-circulation—private cash recycling. Source: Deutsche Bundesbank, own chart based upon information provided by the ECB, Currency Information System (CIS2)

Retailers are also increasingly automating their processes at the PoS and in the back office. Moreover, further co-operative agreements between the banking industry and retailers are developing. Instead of banks having their own branches, they offer their cash services directly where customers need them, namely, in retail outlets themselves. Cash-back and other similar projects, where some providers are even testing the depositing of customers' money in bank accounts in co-operation with a retail market, are just a few examples.

However, these positive initiatives on the part of the market participants are unfortunately partly offset by cost-driving effects, in particular, by the regulatory and administrative requirements surrounding cash. The banking industry, for instance, bemoans the costs for the implementation of the EU coins regulation<sup>9</sup> which, for a single, medium-sized, regional institution might well be higher than the financial loss incurred from counterfeit coins throughout the whole of Germany. The real losers are commercial enterprises and ultimately the consumers; in turn, this might result in a substitution of cash by cashless means of payment in the medium term.

#### **9.4 Caps on Cash and the Issuance Stop of the 500 € Banknote**

Unfortunately, the current debate about capping cash payments at some upper limit and the issuance stop of the 500 € banknote seems to be re-enforcing substitution effects. This is because capping cash payments and abolishing specific denominations probably unsettles cash users and might also lead to increasing cost.

Both measures are justified by claiming that they will help to combat tax evasion, crime and terrorism. However, up until now, there is little evidence of a direct link between cash and criminality. A new and important study on money laundering commissioned by the German Finance Ministry has been used as a justification for the introduction of a cash limit. The study compares the number of unreported suspected cases of money laundering in the banking industry with other areas.<sup>10</sup> It shows that reports of suspected cases by real estate and insurance agents, jewellers, car and art dealers, lawyers and notaries, for instance, account for only around 1% of the cases reported by the financial-sector. Starting from this conclusion, a dark figure of between 15,000 and 28,000 suspicious cases per year in the non-financial sector is subsequently derived using survey methodology. The study

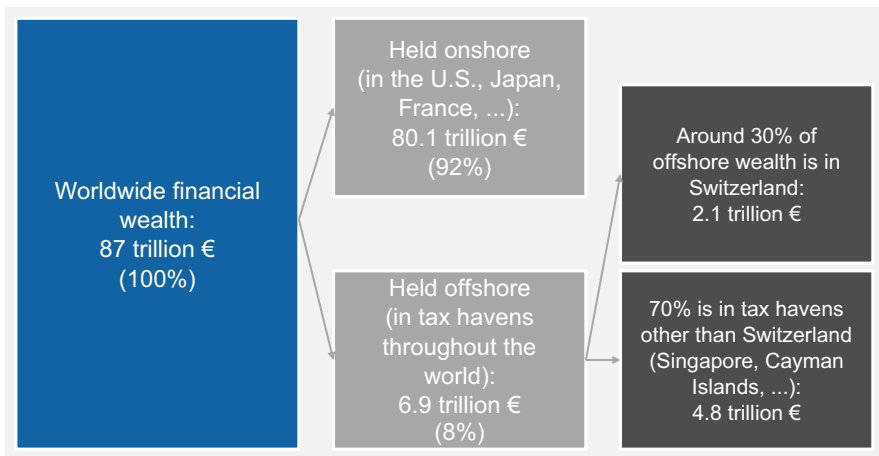
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<sup>9</sup>See Regulation (EU) No 1210/2010 of the European Parliament and of the Council of 15 December 2010 concerning authentication of euro coins and handling of euro coins unfit for circulation.

<sup>10</sup>See Kai Bussmann (2015), "Dark figure study on the prevalence of money laundering in Germany and the risks of money laundering in individual economic sectors", Summary, Martin-Luther-University Halle-Wittenberg.

then estimates a stunningly high volume of money laundering in Germany based upon this finding.<sup>11</sup> However, what the study disregards is that more than 90% of the reports made by the banking industry are not investigated, which essentially means that the study equalises information regarding suspicions with real cases of money laundering.<sup>12</sup> Moreover, in the study, these presumed crimes are exclusively related to cash transactions. The implied assumption that cashless instruments do not play a role in these kinds of undesired activities seems dubious.

Rather, cashless instruments are probably also important especially for tax evasion. Gabriel Zucman, a French economist, estimates that 6.9 trillion euro worth of private assets are held in tax havens around the world, the vast proportion of which is undeclared.<sup>13</sup> And Thomas Piketty targets individual countries' tax dumping strategies, referring to corporate tax rates as an example.<sup>14</sup>



Financial assets in tax havens (Status 2014). Source: Deutsche Bundesbank, own chart based upon information provided by Fig. 3 in “Tables and figures included in the book” available at: <http://gabriel-zucman.eu/hidden-wealth>

<sup>11</sup>For a detailed critical analyse to the Bussmann study, see Friedrich Schneider (2016), “Der Umfang der Geldwäsche in Deutschland und weltweit, Einige Fakten und eine kritische Auseinandersetzung mit der Dunkelfeldstudie von Kai Bussmann”, in: Friedrich Naumann Stiftung, FÜR DIE FREIHEIT.

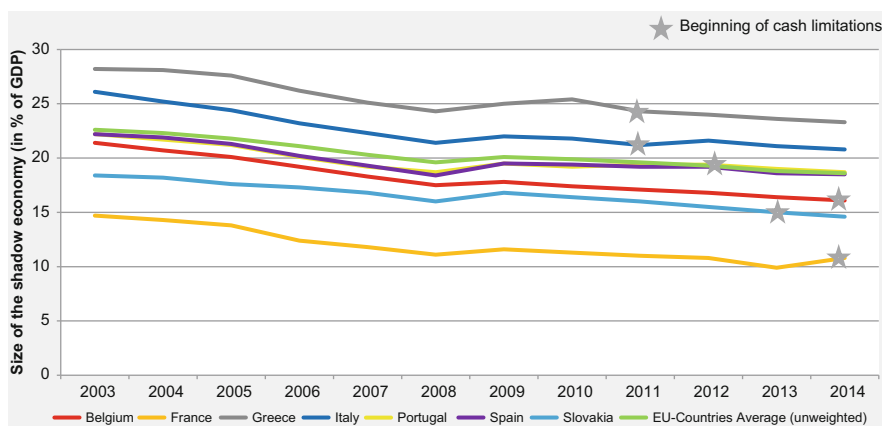
<sup>12</sup>See Friedrich Schneider, in Norbert Häring, Handelsblatt, 2 May 2016, available at: <http://www.handelsblatt.com/my/politik/deutschland/geldwaesche-in-deutschland-die-spur-des-geldes/13528054.html>

<sup>13</sup>See Gabriel Zucman (2015), *The Hidden Wealth of Nations*, Chicago, September 2015, see <http://gabriel-zucman.eu/hidden-wealth>, Figure 3 last accessed on 30 January 2017.

<sup>14</sup>Thomas Piketty, “Die Schlacht um den Euro”, *Libération*, 7 December 2010, Munich 2015, p. 85 *et seq.*

The current discussions about tax havens, government tax dumping in the EU, numbered accounts and letterbox companies is nothing new. But it seems as though it is only journalists, and not the responsible government agencies, who are capable of doing the necessary research. An interesting anecdote in this connection is that the Chinese authorities are fearful of the abolition of cash because, as they say, cash is the simplest way to uncover illegal activities in China, since it leaves traces and is easy to find. By using cashless instruments, such as vouchers, anonymous prepaid cards and goods sold well below the market price, bribery and corruption are supposedly possible without leaving any traces, and can therefore hardly be discovered.<sup>15</sup>

There is no doubt that cash is also used to finance both transactions in the shadow economy and criminal activities, and that every avenue should be pursued to restrict illegal activity. However, the policy measures currently debated do not seem to be particularly effective with regard to achieving this purpose. For example, the economist Friedrich Schneider of the University of Linz, who conducts in-depth analyses of the shadow economy, is sceptical about the effectiveness of banning high banknote denominations or large cash transactions, arguing that these measures would have a minimal impact on illicit work or criminality.<sup>16</sup> He believes that the proposed measures are more like “apparent solutions”.<sup>17</sup>



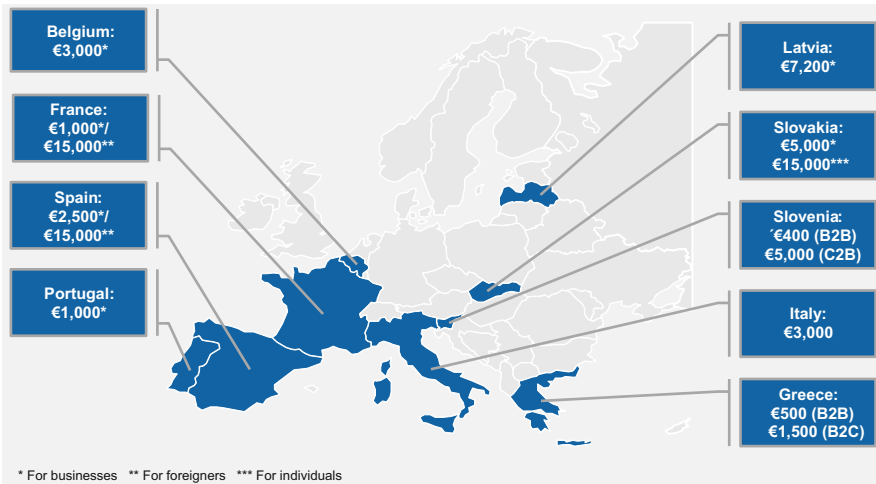
Cash limitations in different euro-area countries. Source: Deutsche Bundesbank, own chart based upon information provided in Schneider et al. (2015, p. 45)

<sup>15</sup>See <http://www.faz.net/aktuell/wirtschaft/korruption-in-china-besteckung-ohne-bargeld-14088830.html>, last accessed 22 July 2016.

<sup>16</sup>See, also, a detailed analysis about the impact of the shadow economy by Friedrich Schneider in Chap. 3.

<sup>17</sup>See <http://www.faz.net/aktuell/wirtschaft/plan-der-bundesregierung-die-bargeld-bremse-sorgt-fuer-streit-14054545.html>, last accessed 22 July 2016.

Michel Sapin, the French minister of finance, argued in favour of a cap on cash payment by saying that, “Limits would also make terrorist financing more difficult”,<sup>18</sup> only to note subsequently that “Attacks such as the recent ones in Paris can be financed with relatively small sums as low as 10,000 euro–30,000 euro”.<sup>19</sup> So, even if terrorists observed the caps on cash payments, which is doubtful, it is only necessary to split the payment among a few people in order to meet the required limits. Furthermore, doubts about the efficacy of these measures are justified because a large number of attackers in the past have come from countries which already had caps on cash payments in place.



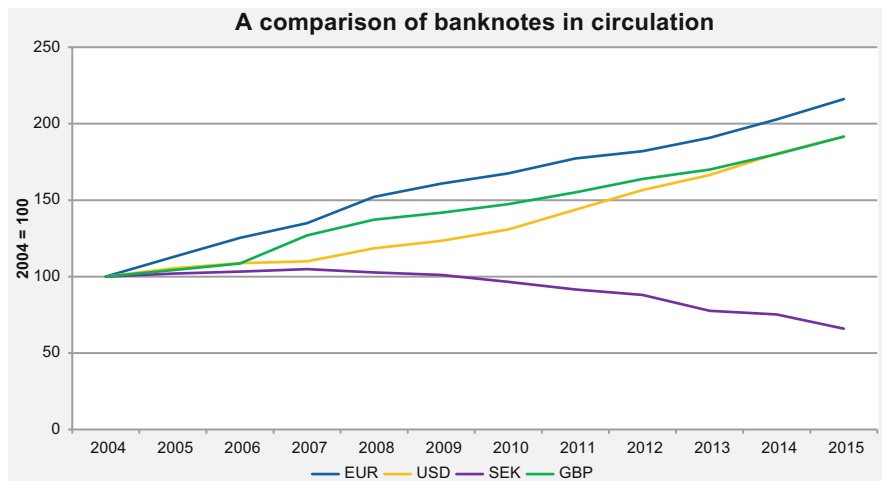
Limitations of cash in Europe. Source: Deutsche Bundesbank, own chart based upon information provided by the ECB, 2016

Here again, the question of cashless payment instruments arises. A German television network asked why credit institutions in the Islamic State (IS) territory were not disconnected from the SWIFT system, pointing out that this would significantly limit opportunities to launder money electronically via sham companies. But this suggestion seems, in the opinion of the reporter of the news broadcast, to be scuppered by more far-reaching political interests than clearing transactions, such as oil deliveries from the IS-held territory.<sup>20</sup>

Not only in Germany and the Eurosystem, but also in other countries, the total amount of cash has risen strongly over the past few years, with the notable

<sup>18</sup>See Michel Sapin in: *Handelsblatt*, 26 January 2016, p. 17.  
<sup>19</sup>See <http://www.reuters.com/article/us-mideast-crisis-financing-france-idUSKBN0U02MZZ20151217>, last accessed 25 July 2016.  
<sup>20</sup>See [http://www.rbb-online.de/kontraste/ueber\\_den\\_tag\\_hinaus/terrorismus/die-geldquellendes-is.html](http://www.rbb-online.de/kontraste/ueber_den_tag_hinaus/terrorismus/die-geldquellendes-is.html), last accessed 19 January 2017.

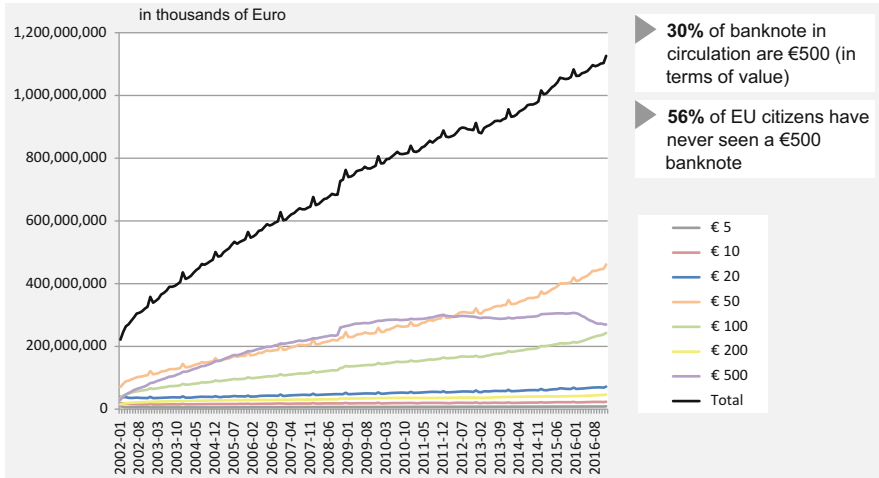
exception of Sweden. And this development seems to be independent of the level of the highest banknote offered by the central bank. So, despite the highest denomination in the US being the 100 USD bill and in the UK being the 50 sterling banknote, and the fact that both are lower than the 500 € banknote, the demand for cash is similar. The increase in the demand for the euro has been a little bit stronger than those of the USD during the last years. This seems to be logical, because of the function of the euro as an international reserve currency is a new one and offers market participants the possibility of diversification.



Comparison of banknotes in circulation. Source: Deutsche Bundesbank, own chart based upon information provided by ECB, Federal Reserve, Sveriges Riksbank and the Bank of England, 2016

Turning now to the stop of the issuance of the 500 € banknote, a frequently voiced argument in favour of such a move is the share of high-denomination banknotes in the overall volume of currency in circulation. The most issued banknote in terms of value in Germany as well as in the Eurosystem is the 50 € note followed by the 500 € banknote. Even though the share of the 500 € banknote in the total volume of currency in circulation is around 30%, it is not actively used by the majority of Germans. In a representative population survey conducted on behalf of the ECB, approximately 56% of respondents replied they had never seen or used a 500 € banknote.<sup>21</sup> These numbers are quite often interpreted as evidence of the illegal use of the 500 € banknote.

<sup>21</sup>See *European Central Bank*, The use of euro banknotes – Results of two surveys among households and firms, Monthly Bulletin, April, 2011, p. 85 & 89.



Development of banknote demand in terms of value. Source: Deutsche Bundesbank, own chart based on information provided at <https://www.ecb.europa.eu/stats/money/euro/circulation/html/index.en.html> and ECB, Monthly Bulletin, April 2011, p. 85

However, a high concentration of currency in circulation in high-denomination banknotes is quite common across different currencies. The share of high-denomination banknotes (CHF 100 to 1000) issued by the Swiss National Bank in overall currency in circulation is 92%, with the CHF 1000 banknote alone accounting for around 62 percentage points of this figure (November 2016). The 100 USD banknote constitutes around 78% of the volume of US dollars in circulation (end 2015). Against this background, the market share of the 100 €, 200 € and 500 € banknotes of 52% at the end of 2015 is relatively low compared with other currencies. Hence, it is doubtful that the 500 € banknote, in particular, should play a dominate role in crime activities, calling into question one of the leading arguments in support of the stop of the issuance of the 500 € banknote. The idea that more cash equals more crime therefore makes as little sense as the notion that less cash equals less crime.

### 9.5 Does Cash Have a Future?

Taken together, there are many reasons to keep cash. When Japanese women were asked after the nuclear accident in Fukushima in 2011 what they needed most urgently in the days following the catastrophe, they replied: flat shoes, a toothbrush and cash.<sup>22</sup> Regardless of the nature of a crisis, people almost always increase their demand for cash. Mistrust in the banking industry or an uncertain political situation

<sup>22</sup>See [http://www.xifanyang.com/wp-content/uploads/2011/05/NEON\\_Japan\\_Tagebuch.pdf](http://www.xifanyang.com/wp-content/uploads/2011/05/NEON_Japan_Tagebuch.pdf)

are typical instances which understandably lead to a surge in the demand for cash as a store of value. In the case of natural disasters or of a power cut, cash is urgently needed as a means of payment. Clearly, a society needs back-up solutions for any event in which their cashless systems should cease to function. Currently, this back-up solution is provided by cash, but, in a world without cash, the additional cost for providing such a system would arise.

Generally, cash offers many advantages.<sup>23</sup> It is seen by users as being quick, easy and secure, and it is also valued as an instrument that enables users both to keep track of their spending and to facilitate budgeting. Finally, the Federal Constitutional Court has emphasised the individual's right to the self-determination of their personal data, which is often brought up in the discussion about cash usage. But, in contrast to the Federal Constitutional Court, the people weaken this decision by way of their daily behaviour and provide personal information for a few bonus points at the PoS or on the Internet. Thus, it is doubtful whether, in the long-run, self-determination will be an important factor for a private person in the future.

Far more crucial are the problems faced by enterprises in connection with these "glass consumers". Naturally, every business wants to have information about the purchasing habits of its customers, but what it is even more interested in is the purchasing profile of its competitors' customers. But each company wants to save the personal data of its own clientele, which seems sometimes to be more efficient than the self-protection of the client itself. Nevertheless, cash seems to be the best form of protection in all possible scenarios against the unauthorised use of personal data.

Clearly, innovations in cashless payment instruments represent a threat to cash. But also new, innovative payment instruments often substitute other cashless payment instruments. An example here can be found in the introduction of the debit card, which contributed to the disappearance of the EC cheque. Overall, a sizeable part of the market share that the debit card now possesses has been gained at the cost of other cashless instruments. It is also important to note that the increasingly large number of different cashless payment instruments might confuse consumers, makes it more difficult to realise economics of scale, and also increases the infrastructure costs for cashless instruments. This further questions whether a cashless society would really lead to more efficient payment transactions. And when coins—heavy, cumbersome, hard to differentiate—are rejected as obsolete, there is no obituary for the sleek, modern, alternative prepaid e-money card, which was designed to replace coins.

To summarise, consumers want a generally accepted, simple means of payment that can be used without any technical set-up. In the eyes of many users, these requirements are best fulfilled by cash.

Alongside minimum reserves, cash constitutes the central bank money, which cannot be created by private credit institutions. If the private sector withdraws cash

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<sup>23</sup>For a more extensive discussion of these advantages, see *Deutsche Bundesbank*, Cash as a means of payment and a store of value, Annual report 2015, pp. 25–45.



from credit intuitions, they have to obtain credit in central bank money. This limits the possibility of credit institutions creating book money and influencing the interest level. Cash is a factor for a functioning monetary economy, the banking industry, and gives the central banks the opportunity to pursue monetary policy. Although other mechanisms are also conceivable, banknotes represent an autonomous factor in the liquidity policy framework. Today, with the discussion about the efficiency of negative interest rates, which seems only possible for private persons and with cash losing its storage function, the question is whether cash shields the general public from monetary policy.<sup>24</sup> Without cash, private persons have no possibility of withdrawing themselves from negative interest rates on their savings and protecting themselves against the bankruptcies of credit institutions. So, in the absence of cash, it is predominantly savers who bear the brunt of the negative repercussions of a monetary policy that has been failing to achieve its targets for quite some time now.<sup>25</sup>

## 9.6 Conclusion

This chapter has addressed the question of whether cash has a future (in Germany). John Cryan, chief executive of the *Deutsche Bank*, has a clear answer. During a panel discussion at the World Economic Forum in Davos, John Cryan predicted the demise of cash within the next 10 years.<sup>26</sup> This chapter, in contrast, expresses a more differentiated view on the future of cash. For a variety of reasons, the demand for cash is rising and will most likely stay at a high level for years to come.

However, cash users have to face powerful vested interests. By attacking cash, governments and government-run agencies around the world hope to curtail tax evasion, crime and terrorism. By forcing consumers to use cashless means of payment, the financial industries want both to earn fees and to collect valuable data on the behaviour of consumers. Abolishing cash would certainly strengthen the financial sector's position by forcing savers into the banking sector. Ultimately, it is an open question of whether the interest of cash users can stand up against this powerful alliance.

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<sup>24</sup>See Kenneth S. Rogoff, "Den Zehner würde ich behalten", *Welt Am Sonntag*, 18 September 2016.

<sup>25</sup>See Norbert Häring, "Die Abschaffung des Bargeldes und die Folgen. Der Weg in die totale Kontrolle", Cologne, 2016.

<sup>26</sup>See John Cryan, available at: <https://www.weforum.org/events/world-economic-forum-annual-meeting-2016/sessions/the-transformation-of-finance-8824a51b-91e1-4f29-88a2-abbfabb5fa8f>, last accessed 22 July 2016.

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