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Do Unofficial Cash Uses threaten Official Cash Provision?

Abstract

In this paper the question is asked whether illegal or criminal activities which need cash for their execution threaten official cash provision of a central bank. The issue is looked at for the case of Germany. Two special cases of illegal or unofficial cash uses can be discerned. One is the use of cash for black activities, the other is the wide range of shadow economies beyond black economies which are assumed to rely on cash at least as a temporary stock of wealth or a hoard. The accusation of the official cash system could consist in the assumption of furthering unofficial uses and therewith also illegal activities as such. For the case of black economies the evaluation concentrates on the dimension of those activities in the German economy. The use of cash as a hoard and a presumable basis for shadow economies is judged with the help of a plausibility test building on cash developments in the transition phase from the Deutsche Mark to the Euro. Both cases do not allow a presumption of sizeable assistance for the illegal activities from the part of official cash provision. In addition, possible alternatives to cash, especially card systems, are not a definite means to avoid illegal activities in shadow economies. Cash, therefore, will be, like in the past but also in the foreseeable future, a welcome means of payment which reduces transaction costs and can transport a social model of the country using an official currency.

Key words:

Banknotes, central banking, shadow economy

JEL classification

E42, E58, O17

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1 Introduction

Official cash provision, especially the provision of national cash, mostly banknotes, by a central bank, serves two broad goals. First, cash, foremost in the form of banknotes, is a sign of the sovereignty of a state. It is generally used as a symbol of the state. The state can show its individual quality and its overall political goal by the design of the banknotes it issues. Everybody has the banknotes at its disposal and uses the common sign of the state in daily transactions. This sign or symbol can act as an important connecting piece for the members of the economy at large. In addition, a national cash system is always used as legal tender in order to attain a monopoly position and thereby also monopoly profits for the government. Those monopoly profits enhance the possibility of revenues, like tax revenues, for the government. On a macroeconomic level, a national cash system can be used by government to reach specific inflation goals for the economy, hereby eventually increasing the monopoly profits. According to some macroeconomic hypotheses, national cash systems may also be of help for some governments who want to follow individual macroeconomic policy goals like employment or growth. All these reasons will contribute to the decision for a national cash system.

Second, cash is a means of exchange¹ contributing to a reduction of transaction costs for all participants in market activities. If there is an official cash provision, and if the second feature of money holds, i.e. if it is a trustworthy store of wealth, cash conveys reliability to the participants of transactions promoting the use of cash and reducing transaction cost still more. To some extent, cash contributes further to lower transaction costs simply because it has the feature of anonymity. Anonymity in itself reduces costs in market transactions. Market transactions with cash are very simple. All participants can concentrate their attention on the goods which they want to exchange, the qualities of the goods and their prices. They do not have to memorize account numbers, personal identification (PIN-) numbers, or even their names, which for most transaction parties are completely irrelevant. Also the calendar date and the time of the transaction need not always be known. No sophisticated or expensive appliances are necessary for payments with cash, again reducing transactions costs.

However, it is just the character of anonymity which triggers unofficial uses of cash. Anonymity will be essential for many activities like theft and robbery of cash. Anonymity enhances unlawful behaviour of people who want to disguise their monetary wealth or their income they reap from their wealth position. Anonymity is a central feature of cash which is exchanged in order to pay for black activities. Black activities need cash, and only few black activities will take place if not cash but in-kind exchanges are chosen as a means of payment. So the question arises if by the official provision of (good and reliable) cash the government or the central bank in charge furthers unofficial activities. Does the official cash provision support illegal or unlawful behaviour? Should, therefore, cash be reduced or should banknotes

¹ The differentiation between the function of money or cash as legal tender and as a means of exchange is not always clarified in textbooks on general economics and even on monetary economics. However, the functions of legal tender and of means of exchange are very distinct qualities of money which need not go together or to be identical in currency systems of the real world.

be banned? Should the ban on banknotes be that far-reaching that their complete abolishment is warranted, or would it be at least advisable to issue new bank notes editions every couple of years in a modified, e.g. redesigned, way making undetected transactions and hoards virtually impossible?

On the one hand, the ban on banknotes would only be viable if cheap alternatives are at hand. In addition to banning banknotes, the remaining role of the central bank as issuer of legal tender or official cash needs to be clarified and eventually completely restructured. As to the repeated issue of redesigned banknotes, it should be very clear that such a procedure would be quite expensive, and increase costs for all participants in transactions. Both decisions, abolishment of banknotes altogether and repeated issues of new banknotes, would, on the other hand, serve to reduce the possibilities of an anonymous cash system as a transmission vehicle for unofficial or unlawful activities. Following these lines would build up serious impediments for cash to serve as an illegal store of wealth (also legal hoards), as an illegal means of payment, and as a medium of income earned in the black sector of an economy. Of course, a lot of questions relating to those far-reaching recommendations have to be asked and answered satisfactorily. This paper will not answer all those questions. We are addressing only three issues.

Chapter 2 concentrates on the illegal use of cash in order to carry out black activities. Are those activities indeed a real threat for official cash provision? The answer to this question depends on whether they are quantitatively important or increasing over time. In chapter 3 arguments are put forward dealing with the role of cash as a store of value used for building up hoards. In this connection we look for convincing evidence, during the last decades, for the supposition that hoards serve in the first line as drivers to pile up resources which are needed for activities in the shadow economy? Finally, chapter 4 tackles some empirics on unofficial or unlawful activities taking place in alternative payment systems. It is observed that these activities increase the less it is possible to pay with cash. Overall, the arguments put forward are solely related to questions of cash use in Germany or to cash uses of German money. Chapter 5 concludes.

2 The importance of cash for black economies in Germany

Black economies are activities which also occur in the regular economy. They have, however, to be kept secret in order to avoid the obligations of the regular economy, namely to pay taxes or social insurance fees.² Cash allows anonymity in transactions which is needed for the carrying out of black activities. In general, the anonymity is confined to the persons involved and their transactions on the microeconomic level. A single transaction is confined in its visibility to the parties engaged directly in black activities. Other people, unless they proceed with detailed detective work, neither can ascertain the black activity, nor its dimension, nor its monetary worth. But black economies could be recognizable on a macroeconomic level because of the amount of the cash use which is somehow needed for black activities and which adds to the use of cash for official activities in the regular economy. A central prerequisite of macroeconomic visibility is, however, the sufficient dimension of black activities in the economy and therewith of cash use for those activities.

The macroeconomic visibility of black cash use must become apparent in overall cash figures. This is an assumption of the currency approach which since the eighties is applied in order to

² See Graf (2011)

estimate the dimension of black economies not only in Germany but in many countries throughout the world.³ According especially to Schneider,⁴ the assumed dimension of black economies in Germany is about 10 percent up to 15 percent of GDP⁵. His estimates of the size of black economies are based on the development of overall cash issued by the Deutsche Bundesbank in form of Deutsche Mark or of the Bundesbank-issued euro banknotes.⁶ However, the estimates do not take into account that only parts of the overall cash in circulation serve current transactions, both in the official and the black section of the German economy, and that not all denominations of banknotes are equally suitable for official and unofficial uses. Besides this, there are, e.g. uses of cash in national hoards and in hoards in other countries which add to cash demand and may be completely unrelated to current transactions and to unofficial cash uses.

A threat concerning a central's bank cash provision could be assumed if the use of cash for black activities reaches a dimension in the economy which is socially unsustainable. In other words, are black economies, which need cash, fostered by the official provision of cash? Does the central bank insofar contribute to illegal activities by providing the necessary vehicle for these activities on a scale which is not tolerable for a state under the rule of law?

In some cases, data protection can have similar consequences. A law system which protects personal data cannot only contribute to personal security but could, at least in theory, also contribute to the abuse of secure personal data in connection with illegal activities. The question is still more far reaching as many goods provided by government, e.g. public goods, could also be misused.

Coming back to official cash provision, the question of abuse of the officially provided means of payment for black activities is not a question of existence of black activities (they do exist!) but foremost a question of scale of these activities within the economy. Is an amount of black economies of some 10 percent of GDP based on the central bank's cash provision still tolerable? Could the central bank come under attack because she gives assistance to unofficial activities in the alleged amount by issuing banknotes at will? The answer to this question may seem to depend on the exact monetary equivalent of black activities or, at least, their relation to GDP. Furthermore, the strictness of the answer could be influenced if the estimates of the black sector can only delimit a band for its relative size to GDP which might be some percentage points more or less than 10 percent. But, if finally, the dimension of black activities is much smaller, if its dimension is virtually negligible, the answer must be different, however, it could be given with much more certainty.

As already indicated above, the estimates about the size of black activities are by no means "sure". They rely on an approach taken over from monetary theory, especially monetarism, of the sixties and seventies in the last century. Cash in circulation was simply used as a once and for all figure C, without differentiating according to diverging cash uses with respective separate economic influences.

³ See Kirchgässner (1983). See also Feld and Schneider (2010)

⁴ See Institut für Angewandte Wirtschaftsforschung (2008), Pressemitteilung, Prognose zur Entwicklung der Schattenwirtschaft in Deutschland im Jahr 2008, Tübingen. This press release refers to a volume of black activities in Germany of 347 bn. euro.

⁵ 15 percent of German GDP is about the same size as the value of all "German" banknotes in circulation at the end of 2010. See Bartzsch et al. (2011), p. 1

⁶ The currency approach, in addition, needs the very artificial and not validated assumption that there must be an initial year or period where no black activities took place. So, starting from this hypothetical period, all increases of cash demand henceforth could be ascribed to the growing black economy.

But cash does not serve only one single purpose. It is not confined to its use in everyday transactions in the country where it is issued. Since long, we know about different uses especially of German banknotes issued by the Bundesbank. Quite a sizeable amount of them circulates outside of Germany and is used in foreign countries as a store of wealth in hoards.⁷ Additional influences are itemized in a former paper of the author.⁸ As a result, banknotes issued by the central bank in Germany are not restricted to transaction purposes in either the official or the unofficial black sector of the national German economy. So, the growth of cash figures over time is by no means solely due to an increasing black sector, as would be the reasoning behind the estimates of Schneider and his followers. If one takes into account that, besides the transaction motive, there are other reasons to hold banknotes in rising amounts growing cash dimensions simply show the composite influence of all increasing separate demands for banknotes issued in Germany, both Deutsche Mark bills and euro-banknotes issued by the Deutsche Bundesbank. Altogether, the dimension of black economies in Germany is overestimated at large and will not reach dimensions of 10 to 15 percent of GDP.

There are other findings which forcefully contradict the assumed dimension of black economies of 10 to 15 percent. They consist in empirical findings which are not a full-fledged proof but are serious evidence based on results of government activities and research analyses.

The first counterargument builds on the results of investigations of thousands of public employees of the German customs authorities. Those employees are part of a task force which was initiated in 2004 named FKS (Finanzkontrolle Schwarzarbeit or: detection force for black activities)⁹. According to the federal court of auditors, the task force detected damages caused by black activities of about 0.6 bn. euro in the year 2007.¹⁰ This is a dimension of less than one thousandth of GDP. In the years to follow the task force still proceeds with its operations. The results in 2010 were an amount of damages detected caused by black activities which reached 0.7 bn. euro or a third of a thousandth of GDP.¹¹ Again, for 2011 the yearly report of the federal ministry of finance about activities of the customs administration indicates an amount of, once more, 0.7 bn. euro for detected black activities.¹² Meanwhile, the picture those reports show, is quite secure. Black activities are confined to a very limited size which does not reach any macroeconomic significance.

Nevertheless, it could be argued that the task force cannot detect all black activities since one of their central features is to be executed clandestinely. This holds especially for black activities where both parties – principal and agent – are private households. A text book example would be the activity of a cleaning lady (a private person) in another private household. Albeit this concession, and even if the black activities between purely private households may add to the overall dimension of black activities, the gap between a third of a thousandth and 10 to 15 percent of GDP can never be filled.

The second counterargument against the large dimension of black economies in Germany is based on an analysis of cash data put forward in a recent discussion paper of the Deutsche

⁷ See Seitz (1995)

⁸ See Graf (2011), p. 54-55. Another critique of the currency approach is put forward by Pickhardt/Sarda (2011). They criticize the currency approach because of its very special assumptions about the cash-deposit ratio which lead to an exaggeration of the estimates of the underground economy in Germany.

⁹ See Bundesgesetzblatt (2004)

¹⁰ See Bundesrechnungshof (2007)

¹¹ Bundesministerium der Finanzen (2011), p. 19

¹² See Bundesministerium der Finanzen (2012), p. 18

Bundesbank¹³ which relies amongst others on findings published in two articles in the monthly reports of the Bundesbank¹⁴. The essential result, at this stage of our argument, is that cash or banknotes in Germany used for internal transaction purposes reach an amount of 10 % of cumulated issuance of euro banknotes in Germany, which again equals some 30 bn. euro at the end of 2009.¹⁵ This amount of 30 bn. euro must be sufficient in order to accomplish all private consumption expenditures executed with cash. Consumption expenditures in Germany in 2009 made up more than 1,400 bn. euro. Most payments for private consumption are handled with bank cards or directly with transfers from deposits. But still about 60 percent of retail sales were paid with cash. Even if the transaction balances of 30 bn. euro circulate several times throughout a year,¹⁶ they must in total be sufficient to execute all payments for transactions in the official and the unofficial, especially black, economy. It is simply impossible to execute a dimension of black economies of several hundreds of bn. euro besides the regular or official transactions with a relative small cash balance of 30 bn. euro. So again, black activities in Germany can only constitute a relatively small proportion of all activities or of GDP, at least according to the value of the transactions altogether.

All in all, black activities are by necessity fuelled by official cash provision. But, the central bank should not be made uncertain as to the minimal size of this assistance to unofficial cash uses. The central bank, therefore, is not forced into a double cost problem. On the one hand, black activities cause social costs because they lead to an unequal treatment of similar activities (some are taxed – some others are not). A renewed issue of redesigned or completely remodelled banknotes could reduce some of these costs. The repeated issue of banknotes would, however, entail substantial production costs for the new banknotes. It would reduce the quality of banknotes as transaction means as they never become well-known. Finally, it would severely limit the seigniorage the central bank can reap which again comes at a loss for society.

3 Are hoards an indication of shadow economies?

The lion's share of banknotes issued by the Deutsche Bundesbank circulates outside Germany, with the bulk of it even outside the euro-area.¹⁷ This conclusion is derived for the period from 2002 to 2009, i.e. a period during which the euro is legal tender in the euro-area member states. For former periods of time, before the introduction of the euro, the Deutsche Mark was equally not confined to transactions in Germany but served in increasing amounts as a store of wealth in foreign countries. There are estimates of foreign uses of Deutsche Mark banknotes, at least for the eighties and nineties, which arrive at similar results and dimensions. One is an estimate of Seitz.¹⁸ Another estimate based on somehow differing estimation methods is explained in Graf (2011).¹⁹ In the final years of the DM-regime the hoards of Deutsche Mark outside Germany made up some 120 bn. DM. Since the introduction of the euro as cash in 2002, the German-issued banknotes add up to 220 bn. euro, or 65 percent of

¹³ See Bartzsch et al. (2011)

¹⁴ Deutsche Bundesbank (2011)

¹⁵ See Bartzsch et al., p. 23. Similar absolute dimensions of transaction balances are mentioned in Deutsche Bundesbank: Monatsbericht Juni 2009

¹⁶ Estimates are given in Deutsche Bundesbank (2011), p. 27. The figures there are, however, not suitable for direct application to our argument.

¹⁷ See Bartzsch et al. (2011)

¹⁸ See Seitz (1995), p. 38 and 43

¹⁹ See Graf (2011), p. 61

the cumulated net issuance of euro banknotes in Germany circulate outside Germany, again the largest part in hoards.²⁰

Hoards, however, are not concentrated in foreign countries. Hoards of banknotes also occur in Germany herself. An estimate of actual domestic hoards in Germany exhibits an absolute amount of 70 bn. euro at the end of 2009 or of 20 percent of cumulated net issuance of euro banknotes in Germany.²¹

For both constituents of hoards one can ask the question: Why do people hold cash which does not lead to any interest revenue? Revenues could, however, be attained indirectly, by the security of the cash value of a noninflationary money. Nonmonetary revenues could also be due to the possibility of accumulating large values which can be disguised from other people or from government agencies, especially revenue offices. In order to follow this goal, it is advisable for hoarders to use few banknotes with large denominations. In general, the hoards may not be the result of illegal behaviour, or the accumulated banknotes must not be earned by unlawful activities. But they could nevertheless stem, to some extent, from activities in shadow economies or be finally used – by dissolving the hoards – in order to engage in shadow economies.

The suspicion of hoards built up for present or future engagements in shadow activities seems to be quite obvious at first hand.²² A deeper look, however, raises at least some doubts about the assumed connection between hoards of banknotes issued in Germany and an assumed similar size of shadow economies. Before concluding this issue, some words are necessary about the meaning of shadow economies and the possible threat with respect to the official cash provision.

Shadow economies are not always defined in the same way. In general shadow economies is used as a generic term.²³ The activities under this heading consist out of black economies and criminal activities like drug traffic, trafficking, blackmail attempts and so on. Most shadow activities (besides black activities) not only need acts of violence but also sufficient means of payments which can keep secret the initiation or the result of the shadow activities. So, there is again the question of the involvement of officially provided cash for the execution of criminal shadow activities. Shadow activities, at least their criminal components, differ insofar from black economies as they, not necessarily but often, take place on an international level. On the contrary, black economies are mostly confined to the domestic economy so that the cash amounts do not necessarily leave one country, and unwind within a short time. The other part of shadow economies will use larger money amounts and could probably put in some stopovers. This may also be the reason for the building up of hoards.

Theoretical reasoning alone cannot answer the question whether the hoards of German banknotes held domestically or in foreign countries are indeed an indication of criminal activities in the international shadow economy. The hoards could also and exclusively serve as a secure store of value emanating out of completely legal activities, which are held for

²⁰ See Bartzsch et al. (2011)

²¹ See Bartzsch et al. (2011), p. 27

²² See e.g. Seitz (1995), p. 48-49 and Bartzsch et al. (2011), p. 21

²³ E.L. Feige (2012) proposes to use the expression „unreported economy“ as a generic term which better suits the phenomenon. The unreported economy in the sense of Feige naturally encompasses activities which are called black economy here. In addition, Feige stresses possibly large dimensions of the unreported economy in the US caused by insufficient income tax reporting. This noncompliance with tax laws in the US can to a large extent be ascribed to the procedure of income tax management via assessments and must not have a mirror image in Germany, at least not in absolute dimensions or in relation to GDP.

future expenditures in the official sector of the respective economies. Arguments in favour of this hypothesis of near to complete legality of cash hoards will be put forward below.

At least for the time-period near the end of the DM-regime, plausibility results in non-proven evidence about cash developments. In the years 2000 and 2001 DM-banknotes in circulation decreased by an amount of 125 bn. DM. Where did those huge amounts of banknotes, consisting in general out of large denominations, go, and couldn't their disappearance leave tracks of illegal origins of the banknotes? As is shown in below in Table 1, the banknotes found their way, at least to a large part, in deposits of private households in Germany which increased in an equal amount.²⁴ Especially banknotes with large denominations of 1000 and 500 DM, which served foremost as hoards, contributed most to the opposite development in deposits of private persons, they decreased about 60 to 70 bn. DM Besides the differing developments of banknotes in circulation and private deposits no special economic consequences of the introduction of the euro can be inferred. Neither the decrease of banknotes in circulation nor the increase in banking deposits entailed any remarkable influence on overall consumption, macroeconomic growth, and inflation at that time.

Table 1: DM-banknotes and private deposits in Germany 1999 – 2001

Year	DM-banknotes altogether		DM-banknotes, large denominations, 1000 and 500 DM		Deposits of national private persons	
	Million DM	Growth in %	Million DM	Growth in %	Million DM	Growth in %
1999	274,133	+ 7.4	121,313	+ 7.2	487,0	+ 11.6
2000	262,089	- 4.4	115,722	- 4.6	507,1	+1.8
2001	149,755	- 42.9	57,323	- 50.5	626,1	+ 23.5

Source: Deutsche Bundesbank: Yearly reports (Geschäftsberichte), monthly reports (Monatsberichte)

The mirror-image of cash hoards, which were dissolved and added to private deposits, would probably not have materialized if the hoards consisted to a large extent out of moneys earned in illegal activities. As the dissolved hoards included both national and foreign-held DM-hoards the huge transactions must have been visible and would have given rise to the suspicion of being related to unlawful behaviour.

However, the assumption put forward here, is that the hoards consisted, to their largest part, out of legally earned stocks. Our argument could be sustained by the developments before and after the introduction of the euro. There are different trends in the holdings of cash and of deposits of private persons before and after the transition to the new currency which seem supportive for our reasoning. Table 2 summarizes some of the obvious characteristics of the two periods.

The first period in Table 2 encompasses the years 1990 to 1997. The final year has been chosen, as it seems that the rearrangement of cash and deposits did not happen on a large extent up to 1997. Since 1998 the transition to the euro was supposed to be a secure event, and, already in 1998, the amount of DM-banknotes in circulation dropped the first time.

²⁴ Graf (2011), p. 60 f.

The second period covers the years from 2002 to 2008, and is due to data availability, which in our case is confined to the data sources provided by Bartzsch (2011).

Table 2 indicates very clearly that in the first period from 1990 to 1997 banknotes in circulation grew less than the deposits of private persons. In our reasoning this can be interpreted to a smaller extent by a gradual adaptation of liquid assets to the expected transition in currency regimes. The larger part is probably due to the general habit of increased use of deposits for everyday transactions.

Table 2: DM-banknotes and private deposits in Germany 1990-1997 and 2002-2008

Period	DM-banknotes altogether	Deposits of national private persons	Cumulated net issuance of euro banknotes by the Bundesbank
	Average yearly growth throughout the period in %	Average yearly growth throughout the period in %	Average yearly growth throughout the period in %
1990-1997	7.2	11.9	-
2002-2008	-	6.4	17.0

Source: see Table 1, and Bartzsch (2011), p. 15 (own calculations).

In the second period from 2002 to 2008, the euro had been introduced as legal tender and the expectations of the public exhibited firm confidence in its stability and its permanence. So, liquid stocks were built up, mainly in the form of cash hoards, which could easily be maintained inside and outside of Germany. The necessity to transform banknotes into deposits did not seem to be a decisive motive for the people with assets which were denominated in euro. In any case the positive experiences with the transition year(s) from DM to euro were no impediment against the concentration on cash hoards

The paper of Bartzsch et al. (2011)²⁵ provides additional arguments for the differences in the cash use behaviour. The dynamic development of German-issued euro banknotes since 2002 which is shown in Figure 1 in Bartzsch et al.²⁶ designs a trend line of the development of the hypothetical volume of banknotes in circulation. The hypothetical line simply follows an extrapolated linear trend of the nineties. This theoretical line is confronted with the actual development of the volume of German banknotes in circulation. The hypothetical line ends at a banknotes volume of less than 200 bn. euro in 2010. The actual volume, however, attained virtually the twice this amount in 2010. This huge difference could be the result of the expansion of hoards after the introduction of the euro. At least to some extent, the euro is and was a currency with broader international character than former national currencies of European countries. So it does not come as a surprise that hoards constituted out of euro-banknotes grew fast and even faster than a decade before.

Why, however, were these hoards built up foremost in the form of German-issued euro-banknotes? Again, the answer to this question can only be tentative. The geographical proximity of Germany to countries in eastern and south-eastern Europe, where banknotes could not only be piled up in hoards but eventually could also be used directly in transactions, may be one reason for the concentration on German-issued banknotes. The nearness to

²⁵ See p 24 ff.

²⁶ See p. 2. A similar graph is shown in the monthly report of the Deutsche Bundesbank (2011), p. 32

Germany could prove to be an advantage in cases of rumours because a quick transformation of banknotes in deposits was at hand. The reasoning put forward concentrates on well-founded official uses of the banknotes. Nevertheless, motives cannot be excluded which are based on activities in the shadow economies. With reference to the prior period in the nineties the part of the shadow economy must be limited. And even if more than only marginal parts of banknote-holdings could be accounted for by motives to fuel shadow activities, the weight of shadow uses is limited. Hoards as such have no sizeable circulation velocity, so the hoards will not execute leverage effects on total money supply or the transaction volume in the economy.

Summing up, the increased use of DM-banknotes and German-issued euro banknotes in domestic and international hoards can only to a small part, if at all, be ascribed to motives in connection with shadow economies. This again, albeit with some reservations, is an argument which enforces the role of official cash provision in Germany. This role is not offended in a decisive way by unofficial activities and cash uses. Some reservations about our arguments, however, have to be allowed for. Especially the process of building up and use of the hoards under discussion seems to be a worthwhile field for future research. The plausibility referred to need additional evidence.

4 More Threats concerning cash and alternative payment instruments

The cash system of an economy is always under attack from criminal activities of counterfeiting, especially of banknotes. This is a permanent challenge for all currencies throughout the history. This threat is, moreover, not confined to banknotes but occurs also within systems of specie. The danger for cash systems is well-known. It is reflected in data e.g. of the European Central Bank²⁷, and the Deutsche Bundesbank.²⁸ But according to the statements of both central banks, the risks from counterfeiting are manageable since their amounts are effectively limited to a very low level. The Euro-System, in addition, like any system of legal tender is always prepared to prevent counterfeiting and provides measures to detect and restrict such criminal offenses.

The central banks, however, cannot take action as far as “normal” burglary is concerned. This is a threat which is not exclusive for cash systems but spreads over all assets which can be stolen.

Are there alternatives to cash, and couldn't they lead to less unofficial activities? Alternatives consist in a wide variety of card systems and digital currencies. All those payment instruments are more and more used in everyday transactions without, however, crowding out cash in a sizeable way. Especially transactions with small values will now and in the foreseeable future need cash as the costs for the equipment necessary in order to process the handling with credit cards or prepaid cards are relatively high. In addition, the extended use of card systems is not without risk for both parties since criminals since long concentrate the efforts on the misuse of cards and electronic transfers.²⁹ A very impressive evidence for this tendency is the information given by the German statistics about criminal offenses (Polizeiliche Kriminalstatistik).³⁰ According to data published in the official statistics, criminal activities

²⁷ See ECB Annual Report (2010), Ch. 2, 3.2

²⁸ See Deutsche Bundesbank (2010), p. 126-127

²⁹ See ESTA (2011), p. 3

³⁰ See Bundesministerium des Innern (2010)

utilising cards and computers increase at a high rate, whereas counterfeits of cash money are relatively insignificant and not rising.³¹

A similar result can be inferred from a report which is presented by the ESTA.³² According to this report the use of cash as sole means to facilitate black economies or unofficial activities in a parallel or shadow sector of the economy is outdated. Criminals do not any more rely on cash in order to try to cover their tracks. They rely nowadays much more on wires or transfers, on credit cards, on prepaid cards, and on digital currency. Probably, these procedures need sophisticated agents. But this is not paramount to say that only less educated people will still use the traditional black activities with cash or banknotes. The threat on any payment system materializes, is always present, and cannot be overcome by banning one of the most common, most economic and beneficial one – cash.

5 Conclusion

Official cash provision by a central bank is one of her most important tasks. By the official provision of cash, a central bank enhances decisively the reduction of transactions costs in the economy, and adds substantially not only to economic growth but to the social welfare of a country altogether. The reduction in transaction costs needs cash with the quality of legal tender. This contributes to the security and reliability of all transactions which otherwise would be impossible at the same low level of costs. Sometimes, official monetary and cash policy neglects one important task of cash provision which supplements its use as a cheap medium of transactions. Official cash is a token for a country and its governance. Banknotes and coins are able to carry a symbol for a state. Cash, therefore, contributes as a universal means of payment to the representation of the state. No other transaction media can accomplish this task. If, however, official cash provision would trigger unofficial activities in a large amount, the fundamental role of the central bank could come under attack. So a central bank has to be very confident that her cash provision is not threatened by unofficial uses which could possibly endanger the economic system in total. Our aim was to show that this threat, albeit it is present to some extent, has and had no decisive or overwhelming material basis during the last decades in Germany. This holds both for the DM-regime and the first period of the euro.

References

Bartzsch, N., Rösl, G., and Seitz, F., (2011), Foreign demand for euro banknotes issued in Germany: estimation using direct approaches, Deutsche Bundesbank, Discussion Paper Series 1: Economic Studies No 20/2011

Bundesgesetzblatt (2004), Gesetz zur Intensivierung der Bekämpfung der Schwarzarbeit und damit zusammenhängender Steuerhinterziehung (ScharzArbG) vom 23. Juli 2004, Bundesgesetzblatt Teil I Nr. 39, ausgegeben am 28. Juli 2004, p 1842-1856, Bonn

Bundesministerium der Finanzen (201), Die Bundeszollverwaltung – Jahresstatistik 2010, Berlin 2011

³¹ See Bundesministerium des Innern (2010), pp. 4, 45 and 46

³² See ESTA (2009) Newsletter No. 59, p.3

Bundesministerium der Finanzen (2012), Die Bundeszollverwaltung – Jahresstatistik 2011, Berlin 2012

Bundesministerium des Innern (ed.) (2010), Die Kriminalität in der Bundesrepublik Deutschland – Polizeiliche Kriminalstatistik für das Jahr 2010, Berlin 2010

Bundesrechnungshof (2007), Bemerkungen zur Haushalts- und Wirtschaftsführung des Bundes, Bonn

Deutsche Bundesbank (2009), Monatsbericht Juni 2009, die Entwicklung und Bestimmungsfaktoren des Euro-Bargeldumlaufs in Deutschland, p.49-62

Deutsche Bundesbank (2010), Geschäftsbericht 2010, Frankfurt 2011, and Geschäftsberichte (Yearly Reports) of former years

Deutsche Bundesbank (2011), Monatsbericht Januar 2011, Der Banknotenkreislauf und das Banknoten-Recycling in Deutschland, p.19-29; Der Auslandsumlauf von in Deutschland emittierten Euro-Banknoten, p.31-43, and Monatsbericht (monthly reports) of former publication dates

ESTA – The Cash Industry Logistics Association – (2011), Cash is secure and universal, Newsletter No. 65, June 2011, p. 1

ESTA – The Cash Industry Logistics Association – (2008), Cash fuels the black economy, Newsletter No. 59

European Central Bank (2010), Annual Report, Frankfurt 2011

Feige, D.L. and Cebula, R.J. (2012), America's Unreported economy: Measuring the Size, Growth and Determinants of Income Tax Evasion in the U.S., Law and Social Change, April 2012 (cited according to mpra.ub.uni-muenchen.de/34781)

Feld, L. P. and Schneider, F. (2010), Survey on the shadow economy and undeclared earnings in OECD Countries, German Economic Review, 11, 109-149

Graf, G. (2011), Some stylised facts about cash and black economies in Germany, European Journal of Law and Economics, 32, 51-67

Institut für Angewandte Wirtschaftsforschung (2008): Pressemitteilung: Prognose zur Entwicklung der Schattenwirtschaft in Deutschland im Jahr 2008, Tübingen

Kirchgässner, G. (1983), Size and development of the West German shadow economy, 1955-1980, Zeitschrift für die gesamte Staatswissenschaft, 139, 197-214

Pickhardt, M./Sarda, J. (2011), The size of the underground economy in Germany: a correction of the record and new evidence from the modified-cash-deposit-ratio approach, European Journal of Law and Economics, 32, 143-163

Seitz, F. (1995), Der DM-Umlauf im Ausland, Deutsche Bundesbank, Diskussionspapier Nr. 1, Frankfurt