Chapter 10
Restricting the Use of Cash in the European Monetary Union: Legal Aspects

Helmut Siekmann

Abstract Clear signs are visible that the use of cash is being increasingly restricted inside the European Monetary Union (EMU). The main argument for this drive was cost-effectiveness. The handling of cash was declared expensive and risky, mainly by economists. Empirical evidence is, however, scarce, and in fact tends to show the opposite; at least for small amounts of money to be paid. More recently, the pressure has been augmented considerably. Part of it is the phasing out of the 500 € banknote. This time, the argument is fighting criminal activities and, in particular, terrorism. More likely, the true reason is to make the "unconventional" measures of the European System of Central Banks (ESCB) more effective: negative nominal interest rates and inflation targeting.

Several legal concerns exist in this context. The total abolition of cash would neither be compatible with EU law nor with German constitutional law. Although the wording of Article 128 TFEU only empowers ("may") the European Central Bank (ECB) to issue euro-banknotes, it presumes the existence of cash. The ECB does not have the power to abolish it. The same result may be derived from Article 20 paragraph 1 Federal Constitution of Germany ("social state").

Restricting the use of issued banknotes and coins denominated in euro would be incompatible with their property of being legal tender following Article 128 TFEU. It is highly questionable whether such measures would be in conformity with the principle of proportionality enshrined in Article 1 paragraph 1 and 4 TEU and protocol no 2 of the primary law of the EU.

The obligation to accept cash denominated in euro follows already from its virtue as legal tender; also for government entities. In addition, this result also follows from the secondary law of the EU: Commission decision 2010/191/EU of 22 March 2010; notwithstanding recital 19 of Regulation (EC) 975/98 that is legally not part of the norm.

H. Siekmann (✉)
Goethe University, Frankfurt am Main, Germany
e-mail: siekmann@imfs-frankfurt.de

F. Rövekamp et al. (eds.), *Cash in East Asia*, Financial and Monetary Policy Studies 44, DOI 10.1007/978-3-319-59846-8_10

10.1 Introduction

There are clear signs that the use of cash is being increasingly restricted inside the European Monetary Union (EMU). For quite some time, not only financial institutions, but also authorities, have being exerting pressure on both businesses and consumers to refrain from using cash. Even statutory rules have been passed to prohibit the use of cash exceeding a certain, albeit rather low, limit. The following examples may illustrate the rich host of obstacles that can be observed:

- Financial institutions impose fees or charges for withdrawing cash from a bank account or depositing cash into it.
- Businesses refuse to accept cash, especially, higher denomination banknotes.
- Government entities require permission to charge taxes, fees or other dues from a bank account,[1] and do not accept cash.[2]
- Tax administrations refuse to disburse refunds other than to bank accounts.[3]
- Limits for using cash in business transactions have been introduced in several Member States by law; sometimes with partial exemptions for visitors, or private persons in general.[4]
- At least one case is known in which German law enforcement authorities considered the mere possession of 9000 € to be sufficiently suspicious to trigger intense criminal investigations, although the possession of such a sum of money is entirely legal in Germany.[5]

[1]For example, Section 13 paragraph 1 sentence 1 n. 1 German vehicle tax act (*Kraftfahrzeugsteuergesetz*).

[2]Most notorious are the quarrels over the use of cash for paying the special contributions to finance the public law broadcasting system in Germany (*Rundfunkanstalten*) regardless of its actual use; based upon Section 9 para 2 sentence 2 RBStV (*Rundfunkgebührenstaatsvertrag*) in conjunction with Section 10 para 2 of the by-laws of the respective public law broadcasting institution; critically, see Norbert Häring, "Beitragsservice reagiert auf Handelsblatt-Experiment", *Handelsblatt*, 16 June 2015. The conduct of the system was recently justified by an unpublished decision of the Administrative Court of Munich of 1 June 2016, docket no M 6 K 15.5638 (*VG München, Urteil vom 1. Juni 2016, Az. M 6 K 15.5638*). A decision of a superior court is, however, lacking.

[3]Section 224 para. 3 phrase 1 of the German tax code (*Abgabenordnung*).

[4]See, for example, Benjamin Angel and Aliénor Margerit, "Quelle est la portée du cours légal de l'euro?", (2009) 532 *Revue du Marché commun et de l'Union européenne*, p. 587, at 588; Norbert Häring, "Bargeld auf dem Rückzug", *Handelsblatt* 26 January 2016, p. 29. A detailed overview of the various limits and restrictions for using cash, enacted by several Member States of the EU is given in a paper by the research service of the German federal parliament (Wissenschaftliche Dienste, Deutscher Bundestag Ausarbeitung WD 4 – 3000 – 043/16, p. 8 et seq.). The thresholds range from 1500 to 15,000 euros or its equivalent for the non-euro states; preparation to introduce such a limit in Germany was disclosed by the Federal Ministry of Finance, *Börsen-Zeitung*, 4 February 2016, p. 6, but later denied (Deutscher Budestag, printed matter 18/7794 of 04/03/2019, p. 23) and postponed for a legislative act of the EU (Deutscher Bundestag, Committe of petitions, 26/04/2017, hib 269/2017).

[5]Hans Theile, "Der Sündenbock", *Frankfurter Allgemeine Zeitung*, 16 November 2014.

- On 5 May 2016, the Governing Council of the ECB decided to end the production and issuance of 500 € banknotes.[6]

These measures have been successful to varying degrees in the Member States of the EU whose currency is the euro. In some countries, they have led to the replacement of cash as a means of payment or storage of value, on a large scale. In other Member States, such as Austria and Germany, cash is still widely used.[7] Here, the extent to which this is due to a difference in the intrinsic preferences of the acting persons has to be left open.

The next, and considerably more incriminating, step would be the total abolition of cash. Macro-economists, such as Lawrence Summers,[8] Kenneth Rogoff, and Peter Bofinger, have explicitly demanded such an interdiction.[9] In a purely theoretical world of macro-economics, this might be an advisable step, especially from a predominantly Keynesian perspective. The existence of cash is seen as an effective zero lower bound on nominal interest rates. This lower bound might even be a few

[6]"Press release of 4 May 2016:

- The ECB has decided to discontinue production and issuance of 500 € banknote;
- Europa series of euro banknotes will not include the 500 €;
- 500 € banknote remains legal tender and will always retain its value.

Today the Governing Council of the European Central Bank (ECB) concluded a review of the denominational structure of the Europa series. It has decided to permanently stop producing the 500 € banknote and to exclude it from the Europa series, taking into account concerns that this banknote could facilitate illicit activities. The issuance of the 500 € will be stopped around the end of 2018, when the 100 € and 200 € banknotes of the Europa series are planned to be introduced. The other denominations—from 5 € to 200 €—will remain in place." This decision was criticised by: the President of the German Bundesbank, Jens Weidmann, *Handelsblatt*, 25 February 2016, p. 30; Daniel Stelter, "Mit der Abschaffung der 500er Note ist ein Tabu gefallen", *Börsen-Zeitung*, 7 May 2016, p. 4; the member of the German Council of Economic advisers, Volker Wieland, cited in: "Große Bedenken gegen Bargeldobergrenzen", *Frankfurter Allgemeine Zeitung*, 14 June 2016; idem, cited in: *Frankfurter Neue Presse*, 14 June 2016, p. 4; anonymous, *Börsen-Zeitung*, 6 May 2016, p. 6; "decidedly in favour of retaining the €500 banknote", Sebastian Jost, *Die Welt*, 13 February 2016: "It protects the currency."

[7]See Malte Krüger and Franz Seitz, Costs and Benefits of Cash and Cashless Payment Instruments, (2014), p. 20–52; Christof Freimuth, "Article 128 AEUV", in: Helmut Siekmann (ed), *Kommentar zur Europäischen Währungsunion*, (Tübingen: Mohr Siebeck, 2013), at margin no 6. There are also signs that the use of digital money is no longer growing to the extent that some governments and financial institutions would like. At the moment, the growth rates of the Digital Money Index calculated by Imperial College, London University and Citigroup has come down to 1.3 per cent; see Andreas Hippin, "'Zivilisationsaufbau' durch digitales Bezahlen", *Börsen-Zeitung*, 27 January 2016, p. 2.

[8]Lawrence Summers, "It's time to kill the $100 bill", *Washington Post*, 16 February 2016; anonymous, "Peter Bofinger, Wirtschaftsweiser für Abschaffung des Bargelds", *Frankfurter Allgemeine Zeitung*, 16 May 2015; dissenting Carl-Ludwig Thiele, Diskussion um das Bargeld: Hätte eine Abschaffung von Banknoten und Münzen wirklich Vorteile? *Ifo-Schnelldienst* 13/2015 of 16 July 2015, p. 3.

[9]Kenneth Rogoff, "Costs and Benefits of Phasing out Paper Currency", NBER Macroeconomics Annual Conference, 11 April 2014; most recently, idem, *Handelsblatt Nr. 185*, weekend edition 23/24/25 September 2016, p. 28 *et seq*., declaring the risk of insolvency of a bank with an ensuing "bail-in" a "hysteria".

basis points to the negative, as there are costs of holding cash. In the real world, staggering impediments and detrimental downsides of such a decision are visible.[10]

In addition, experience shows that this would probably not be the last step. In some countries at least, the chances are high that the population would try to protect itself and use other commodities as a means of payment or as a store of value: seashells, paintings, cigarettes, liquor, precious metals, jewels, vouchers, special drawing rights, foreign currency, just to name a few. In essence, any tangible object which is relatively rare and cannot be produced without an input of resources may serve. As a consequence, the possession and the use of precious metals as bullion or coins was also interdicted, often in combination with the threat of draconian measures in cases of disobedience. The same was true for the possession or use of foreign currency. Two well-known examples from the twentieth century may be given:

- The possession of gold coins, gold bullion, and gold certificates within the continental United States exceeding five troy ounces was made a criminal offence for all private persons from 1 May 1933 onwards by Executive Order 6102, signed by President Roosevelt on 5 April 1933.[11] Immediately thereafter, the U.S. dollar substantially depreciated against the price of gold. In effect, this was an (indirect) expropriation of savings.
- In Germany, all foreign currency (and all financial instruments denominated in foreign currency) were confiscated in the course of the hyperinflation of 1923. The regulation of 25 August 1923 was based upon Article 48 of the constitution,[12] which allowed emergency legislation by the president (*Notverordnungsrecht*). Earlier, the *Reichsbank* had been granted the power to require, under certain circumstances, the exchange of foreign currencies or precious metals into—by that time already almost worthless—domestic currency, as *per* Section 9 of the regulation of 8 May 1923.[13]

At a first glance, the sketched barriers can be divided into three groups:

- Factual or indirect impediments;
- Restrictions based upon statutory rules closing channels for the use of cash or making them less viable;
- Outright interdictions by law.

[10]See for example: Claudio Borio, "Comment", in: Charles Bean, Christian Broda, Takatoshi Ito, and Randall Kroszner, *Low for Long? Causes and Consequences of Low Interest Rates*, (Geneva: International Center for Monetary and Banking Studies - ICMB, London: Center for Economic Policy Research – CEPR-Press, 2015), Geneva Reports on the World Economy 17, p. 93 et seq.; Fritz Zurbruegg, ibid, p. 94 et seq.

[11]Franklin D. Roosevelt, *The Public Papers and Addresses of Franklin D. Roosevelt. Volume Two, The Year of Crisis, 1933: With a Special Introduction and Explanatory Notes by President Roosevelt*, (New York: Random House, 1938), p. 111.

[12]*Official Journal* part I, p. 833 (Verordnung des Reichspräsidenten über die Ablieferung ausländischer Vermögensgegenstände of 25 August 1923, Reichsgesetzblatt I, 833).

[13]*Official Journal* part I, p. 275 (Verordnung des Reichspräsidenten aufgrund des Notgesetzes (Maßnahmen gegen die Valutaspekulation) of 8 Mai 1923, RGBl I, 275); not judged as tax or contribution by the German supreme civil court, RGZ 110, 344 at 346.

In the present situation, some economists readily acknowledge the abolition of cash as useful and—as experts in constitutional law—quickly come to the conclusion that constitutional concerns are unfounded as a fundamental right for cash does not exist. This is not really surprising. In any case, the restrictions would serve, in the opinion of the supporters, a good purpose: they would grant to the "unconventional" monetary policy, which has been established by central banks on a large scale, finally the—so far not clearly visible—effectiveness.[14] Lawyers, on the other hand, are more in favour of the argument that the restrictions for using cash would hinder money laundering.[15] The former president of the German Federal Constitutional Court, Hans-Jürgen Papier, judges restrictions on the use of cash as non-justified intrusions into civil rights and lacking the undispensable proportionality.[16]

It is definitely worthwhile taking a closer look at some of the puzzling questions of:

1. The nature of cash;
2. The conformity of an abolition with EU law;
3. The conformity of restrictions with EU law;
4. The requirements of German constitutional law;
5. The legal consequences of not accepting cash.

10.2 The Nature of Cash

According to the State Theory of Money, only those signs (chattels) which serve the monetary functions that are created by a state are money, and all such signs created by a state are money. Friedrich Georg Knapp, professor of economics at the University of Strasbourg, is almost unanimously credited for this theory[17] since he commenced his famous treatise on the "State Theory of Money" in 1905 with these words:

[14]Christian Odendahl, "Es gibt kein Grundrecht auf Bargeld.", *Zeit online*, 20 February 2016.

[15]Joachim Kaetzler, *Börsen-Zeitung*, 3 March 2016, p. 7; dissenting: Jost, note 6 above; Bernd Wittkowski, *Börsen-Zeitung*, 6 May 2016, p. 1; also sceptical, see Weidmann, note 6 above.

[16]See research service of the German Federal Parliament [Deutscher Bundestag, Wissenschafltiche Dienste], note 4 above, p. 7; also cited for his critical view in: "Große Bedenken gegen Bargeldobergrenzen", *Frankfurter Allgemeine Zeitung*, 14 June 2016; "Verfassungswidrig?", *Frankfurter Neue Presse*, 14 June 2016, p. 4.

[17]Recent examples: Karsten Schmidt, "Die 'Staatliche Theorie des Geldes': Jahrhundertwerk oder Makulatur?", in: Albrecht Weber (ed), *Währung und Wirtschaft, Festschrift für Prof. Dr. Hugo J. Hahn zum 70. Geburtstag*, (Baden-Baden: Nomos Verlag, 1997), p. 81; David Fox, François R. Velde and Wolfgang Ernst, "Monetary History between Law and Economics", in: David Fox and Wolfgang Ernst (eds), *Money in the Western Legal Tradition*, (Oxford: Oxford University Press, 2016), p. 3, at 13 *et seq*; L. Randall Wray, "From the State Theory of Money to Modern Money: An Alternative to Economic Orthodoxy", ibid., p. 631, at 632–636.

> Money is a creation of the legal system; it has appeared in history in various forms: a theory of money can therefore only be a work of legal history.[18]

From this starting-point, it was well justified and consistent for him to re-iterate:

> Money is a creation of the state. Only legal tender is money and all legal tender is money.[19]

Following this definition, the term "money" is equivalent to that of legal tender—for all practical purposes.[20] It was, however, a now almost forgotten German law professor—at that time in Basel—who had made the same discovery using partially the same wording decades before Knapp. For the sake of academic and historical truth, it is Gustav Hartmann who should be credited with the "State Theory of Money".[21]

The majority of economists has criticised this view as being too narrow[22] and instead favours a functional understanding of money: anything that is generally accepted as a medium of exchange, a unit of account, and a store of value has to be treated as money.[23] Good reasons exist to follow this path in economic analysis, but

---

[18]Friedrich Georg Knapp, *Staatliche Theorie des Geldes*, (Leipzig: Duncker & Humblot, 1905), p. 1: "Das Geld ist ein Geschöpf der Rechtsordnung; es ist im Laufe der Geschichte in den verschiedensten Formen aufgetreten: eine Theorie des Geldes kann daher nur rechtsgeschichtlich sein." [Money is a creation of the legal system; in the course of history, it has emerged in most different forms: that is why a theory of money can only be a phenomenon of legal history.]

[19]Knapp, note 18 above, p. 123, in specific for banknotes.

[20]In essence agreeing, Frederic A. Mann, *The Legal Aspects of Money*, fifth edn., (Oxford: Clarendon Press, 1992), p. 16 *et seq*.; Olaf R. Dahlmann, *Das Recht des Geldes*, (Berlin: Metzner, 1960), p. 400; Hermann Fögen, *Geld- und Währungsrecht*, (Munich: Beck, 1969), p. 7; Karsten Schmidt, "Vorbem. zu §§ 244 ff.", in: J. von Staudingers, *Kommentar zum Bürgerlichen Gesetzbuch mit Einführungsgesetz und Nebengesetzen, Zweites Buch, 13. Bearbeitung*, (Berlin: Sellier and Walter de Gruyter, 1997/8), A 3, A 12, for money signs (tokens) as consequence of the two-pronged definition (A. 11); idem, note 17 above, p. 88 & 90 with reservations.

[21]Gustav Hartmann, *Über den rechtlichen Begriff des Geldes und den Inhalt von Geldschulden*, (Braunschweig: Leibrock, 1868), pp. 4, 7, 12, 48; (critical) review by Otto Karlowa, Kritische Vierteljahresschrift für Gesetzgebung und Rechtswissenschaft vol. 11 n. 4 (1869), p. 526, but agreeing that the recognition by the legal system is essential for the virtue of being money (at 536 et seq.); see already before him: Johann Christian Ravit, *Beiträge zur Lehre vom Gelde*, (Lübeck: Aschenfeldt, 1862), p. 12, but less clear.

[22]See, for example, Joseph A. Schumpeter, *Das Wesen des Geldes*, ed. F.A. Mann, (Göttingen: Vandenhoeck & Ruprecht, 1970), p. 56; from a legal perspective, see Frank Vischer, *Geld- und Währungsrecht im nationalen und internationalen Kontext*, (Basel: Helbing Lichtenhahn, 2010), p. 4, 17 *et seq*.; for clearly a different view, see Carl Menger, *Untersuchungen über die Methode der Sozialwissenschaften, und der politischen Oekonomie*, (Leipzig: Duncker & Humblot, 1883), p. 176, with comprehensive citations from (ancient) history (p. 172-174); discussion at: Helmut Siekmann, "Deposit Banking and the Use of Monetary Instruments", in: David Fox and Wolfgang Ernst (eds), *Money in the Western Legal Tradition*, (Oxford: Oxford University Press, 2016), p. 489, at 510 *et seq*; Wray, note 17 above, pp. 631–652 with in-depth analysis of various authors and emphasizing the "government budget constraint" in view of creating money.

[23]See, for example, Alan J. Auerbach and Laurence J. Kotlikoff, *Macroeconomics*, second edition, (Cambridge MA, London: The MIT Press, 1998), p. 172 *et seq*; Frederic S. Mishkin, *The Economics of Money, Banking, and Financial Markets*, eleventh edition, (Harlow: Pearson, 2016), pp. 96-98; Rudolf Richter, *Geldtheorie*, second edition, (Berlin-Heidelberg: Springer Verlag, 1990), p. 103 *et seq*., & 108; already discussed in nineteenth century by Ravit, note 21 above, p. 527 *et seq*.

they do not justify the monopolisation of the term "money".[24] From the legal perspective, money is widely acknowledged as a creation of law, as Knapp assumed.[25] Its "existence has to be understood within a legal framework".[26] Sometimes, it is even contended that the "state theory of money" has been accepted by "modern constitutions" "as a necessary consequence of the sovereign power over currency", "entrenched in modern constitutions".[27] It may be left undecided whether this reasoning is entirely in conformity with the content of this "theory". At its core, it is, however, true that a close conjunction of the definition of money and the legal system exists. Even if the cited constitutions do not use the term, money, in the legal sense of the word, it can be identified as a creation of the sovereign and as "legal tender".

It can be discussed whether deposits in an account at the central bank should be included in the definition of money in the legal sense, as, for all practical purposes, cash and such claims against the central bank may be interchanged at will. An insolvency risk does not exist, as a central bank is the only institution which may legally produce cash (legal tender) in any amount, and cannot become insolvent. Then, the legal definition of money would get close to the economic category of base money, with the exception of legal tender held by credit institutions.

Within the European Union (EU), only the banknotes issued by the European Central Bank (ECB) or the national central banks with the permission of the ECB "have the status of legal tender", Article 128 paragraph 1 sentence 3 Treaty on the

[24]Also, among economists, it is consented that this functional view is a definition of economists for economic purposes; Mishkin, note 23 above, p. 95.

[25]See, for example, Ravit, note 21 above; Hartmann, note 21 above, p. 7 & 12-17; Mann (1992), note 20 above, p. 16; Schmidt, note 20 above, Vorbem. Zu §§ 244 ff., A 11; in principle, also Charles Proctor, *Mann on the Legal Aspects of Money*, seventh edition, (Oxford: Oxford University Press, 2012), note 1.67, 1.68 (p. 40 *et seq*.) with some adjustments; Martin Selmayr, *Das Recht der Wirtschafts- und Währungsunion*, (Baden-Baden: Nomos Verlag, 2002, p. 32 & 37; Rosa Lastra, *International Financial and Monetary Law*, second edition, (Oxford: Oxford University Press, 2015), margin n. 1.29; Siekmann, note 22 above, p. 511; disagreeing, Vischer, note 22 above; partially merely descriptive and advocating a "relative" term of money, see Hugo J. Hahn and Ulrich Häde, *Währungsrecht*, second edtition, (Munich: C.H. Beck, 2010), § 3 *Der juristische Begriff des Geldes*, but eventually also demanding state authorisation (p. 19).

[26]Lastra, note 25 above, margin n. 1.29; drawing substantially from Mann (1992), note 20 above, p. 461.

[27]Carl-Theodor Samm, "'Geld' und 'Währung' – begrifflich und mit Blick auf den Vertrag von Maastricht", in: Weber, note 17 above, p. 227, at 233 ["*Der gegenständliche Begriff des Geldes (...) ergibt sich aus der staatlichen Theorie des Geldes* (in footnote 22 reference to Knapp), *die zwinged aus der in den modernen Verfassungen verankerten Geldhoheit des Staates folgt;*"]; Lastra, note 25 above, margin n. 1.42, uses almost the same words, however, without reference to Samm: "The State theory of money—recognized in modern constitutions (in footnote 55 reference to some constitutions)—has been typically construed as a necessary consequence of the sovereign power over currency"; for more details with references on the link between sovereign rights and the creation of money, see Helmut Siekmann, "The Legal Frameworks for the European System of Central Banks", in: Frank Rövekamp, Moritz Bälz and Hanns Günter Hilpert (eds), *Central Banking and Financial Stability in East Asia*, (Cham-Heidelberg-New York-Dordrecht-London: Springer International Publishing, 2015), p. 43 at 46.

Functioning of the European Union (TFEU).[28] For coins issued by the Member States whose currency is the euro, the status of legal tender follows from Article 11 Regulation 974/98.[29]

As a result, the term "cash", i.e., banknotes and coins denominated in euro, is identical with legal tender and the term "money" in the legal sense of the word.[30] It is the only money which has to be accepted as fulfilment of a monetary claim.[31] Recent developments, especially the creation and diffusion of electronic instruments of exchange such as Bitcoins, do not yet require a modification of this delineation. Aside from other downsides, for example their extreme volatility,[32] they do not have the property of legal tender, at least not in Germany.[33] In general, nobody is obliged to accept Bitcoins.[34] Another question is whether specific statutes

[28]Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union, Official Journal of 26.10.2012, C 326/01, addition by Council Decision of 25 March 2011 amending Article 136 of the Treaty on the Functioning of the European Union with regard to a stability mechanism for Member States whose currency is the euro, Official Journal of 6.4.2011, L 91/1.

[29]Council Regulation (EC) No 974/98 of 3 May 1998 on the introduction of the euro, Official Journal of 11.5.1998, L 139/1.

[30]Freimuth, note 7 above, at margin n. 4; disagreeing, see Bernd Krauskopf, "How Euro Banknotes Acquire the Properties of Money", in: European Central Bank (ed), *Legal Aspects of the European System of Central Banks, Liber Amicorum Paolo Zamboni Garavelli, European Central Bank*, (Frankfurt am Main: ECB, 2005), p. 243, at 248: "consistent with tradition" but "does not appear to be absolutely essential"; earlier in favour of a wider understanding of the term "money", see Samm, note 27 above, p. 234 *et seq*.

[31]See, for example, RGZ 134, 73 at 76; BGH, (1953), *Neue Juristische Wochenschrift*, 897 at 108; BGHZ 58, 108 at 109; OLG Hamm, (1988), *Neue Juristische Wochenschrift*, p. 2115; OLG Frankfurt, (1986), *Juristen Zeitung*, p. 1072; Joachim v. Spindler, Willy Becker & O.-Ernst Starke, *Die Deutsche Bundesbank*, 4th edition, (Stuttgart-Berlin-Cologne-Mainz: Kohlhammer, 1973), § 14 annotation 3 (p. 285); Fögen, note 20 above, p. 7; Schmidt, note 20 above, Vorbem. Zu §§ 244 ff., A 19, 24, 30; Jan Endler, *Europäische Zentralbank und Preisstabilität*, (Stuttgart-Munich-Hannover-Berlin-Weimar-Dresden: Boorberg, 1998), p. 119; Selmayr, note 25 above, p. 31 *et seq*., 425; Patrice de Lapasse, "The Legal Status of the Euro" in: European Central Bank (ed), note 30 above, p. 235, at 237; Angel and Margerit, note 4 above, p. 588 & 592; Freimuth, note 7 above, at margin n. 81 with minor reservations; Benjamin Beck, "Bitcoins als Geld im Rechtssinne", (2015) *Neue Juristische Wochenschrift* – NJW, p. 580, at 581; disagreeing, see Christoph Herrmann, *Währungshoheit, Währungsverfassung und subjektive Rechte*, (Tübingen: Mohr Siebeck, 2010), p. 315; for the historic evolution, see Krauskopf, note 30 above, pp. 246–248); Siekmann, note 22 above, p. 507.

[32]Rogoff, above n. 8, p. 1. For the extent of their useage see note 7 above.

[33]On its website, the Bank of England dissolves, to some extent, the content of the term legal tender, as it declares the "acceptability as a means of payment a matter of agreement between the parties", but gives the debtor "a good defence in law" if he is sued for non-payment when he has offered to pay the due amount of money in legal tender", cited from Proctor, note 25 above, para. 2.24, footnote 49. The status and function of legal tender in the UK is anyhow awkward as the banknotes issued by the Bank of England have the status of legal tender only in England and Wales, but not in Scotland; see Proctor, note 25 above, para 2.30.

[34]Beck, note 31 above, at 581.

may be enacted to force certain providers of (public) services to accept bank-issued instruments of payments, such as credit cards.[35]

10.3 The Conformity of an Abolition with EU Law

The legality of an abolition of cash will essentially depend on whether the EU or the European Central Bank are obliged to create cash denominated in euro. The answer to this question is crucial, since cash has been identified in the preceding section as legal tender, and legal tender may be essential. An in-depth analysis of the problem has not been undertaken to date.

10.3.1 Foundations

In applying EU law, a clear distinction between the "primary" and the "secondary" law of the Union has to be made. The primary law has been created directly by the parties adopting the European Treaties; initially, the Treaties forming the European Communities, especially the European Economic Community (EEC), and finally the European Union (EU). As this body of law is comprehensive and specifically entrenched,[36] it is functionally equivalent to the constitutional law of modern constitutions. The provisions of the Treaties should be regarded as the constitutional law of the EU taking precedence over the law of the Member States.[37] It is the supreme law of the land. At present, it is enshrined in the Treaty on European Union (TEU) and the Treaty on the Functioning of the European Union (TFEU)[38] including the protocols and the annexes to the Treaties which form an integral part thereof (Article 50 TEU).

The secondary law is created by the organs and institutions of the Union. As these bodies "have to act within the powers conferred upon them by the Treaties", it is "subordinate to those primary norms".[39] This hierarchy of norms may be derived

[35]The Administrative Court of Berlin upheld, in a preliminary judgment of 24 June 2015 (docket n. 11 L 213.15), a regulation obliging the providers of taxi services to accept credit cards and to have the necessary hardware in working condition (*Verwaltungsgericht Berlin, Beschluss vom 24. Juni 2015 – Az. 11 L 213.15)*, confirmed by the Superior Adminsitrative Court of Berlin in a judgment of 18 December 2015 (docket n. OVG 1 S 76.15) (*Oberverwaltungsgericht Berlin-Brandenburg, Beschluss vom 18.12.2015 – OVG 1 S 76.15)*, BeckRS 2016, 40395 – beck-online.

[36]Amending the primary law is, in principle, only possible unanimously, Article 48 TEU, even when using the "simplified" revision procedures following Article 49 paragraphs 6-7 TEU.

[37]Koen Lenaerts and Piet van Nuffels, *European Union Law*, third edition, (London: Sweet & Maxwell, Thomson Reuters, 2011), margin-n. 22-007, with further references especially from the rich jurisprudence of the Court of the EU (ECJ/CJEU).

[38]Reference in footnote 28 above.

[39]Lenaerts and van Nuffel, note 37 above, margin-n. 22-003.

from Article 262 TFEU. Primary and secondary EU law also take precedence over all national law. Although this concept is not self-evident to lawyers in all jurisdictions, it is acknowledged by the Court of the EU[40] and has been familiar to other decentralised systems, such as the U.S., since its inception.[41] Only for the extreme cases of a severe (or evident) transgression of competences (*ultra vires*), or a violation of the core content of the constitutional identity (*Verfassungsidentität*) of Germany, has the Federal Constitutional Court of this country reserved the right to review the conformity of acts of institutions of the EU with EU law and a possibly resulting infringement of the Federal Constitution of Germany, the Basic Law.[42] Only in such cases may EU law not have precedence.[43]

10.3.2 Safeguarding the Existence of Legal Tender

At first sight, it is not clear whether the primary law requires the existence of cash in the sense of banknotes and coins denominated in euro. Article 128 paragraph 1 sentence 2 TFEU only states that the "European Central Bank and the national central banks *may* [emphasis added] issue such notes" (i.e., euro banknotes). For coins issued by the Member States, subject to approval by the European Central Bank (ECB), the wording is similar in paragraph 2 of this article; but not identical. In addition, this language is re-iterated in Article 282 paragraph 3 sentence 2 TFEU which states: "It [the ECB] alone may authorise the issue of the euro."

Moreover, Article 128 paragraph 1 sentence 3 TFEU decrees that "the banknotes issued by the European Central Bank and the national central banks shall be the only such notes to have the status of legal tender within the Union". From this, it might follow that the primary law pre-supposes the existence of legal tender, banknotes and of coins denominated in euro. But this reasoning might not be

[40]Judgment of 15 July 1964, Case 6/64 *Costa/E.N.E.L.*, Reports of Cases 1964, 587 (594); judgment of 9 September 1978, Case 106/77 *Simmenthal*, Reports of Cases 1978, 630 margin n. 17: "automatically inapplicable"; BVerfGE 31, 145 (173f.); 37, 271 (277 *et seq.*); 73, 339 (375 *et seq.*); 89, 155 (175); see, for example, for more details, Hermann-Josef Blanke, *Föderalismus und Integrationsgewalt - Die Bundesrepublik Deutschland, Spanien, Italien und Belgien als dezentralisierte Staaten in der EG*, (Berlin: Duncker & Humblot, 1991), p. 290; Hans D. Jarass and Saša Beljin, "Die Bedeutung von Vorrang und Durchführung des EG-Rechts für die nationale Rechtsetzung und Rechtsanwendung", (2004) 23 *Neue Zeitschrift für Verwaltungsrecht*, p. 1; Burkhard Schöbener, "Das Verhältnis des EU-Rechts zum nationalen Recht der Bundesrepublik Deutschland", (2011) 43 *Juristische Arbeitsblätter*, p. 885, at 889 *et seq.*

[41]Seminal U.S. Supreme Court, *Marbury* vs. *Madison*, 5 U.S. (1 Cranch) 137 at 176 (1803); earlier already Pennsylvania District Court, (2 Dallas) 304 at 308 (1795); see, also, Article 31 of the Basic Law, the German federal constitution for the precedence of the law of the central state over the law of the decentralised entities (*Länder*); even their constitutional law.

[42]BVerfGE 58, 1 (30 and 31); 75, 223 (235, 242); 89, 155 (187 *et seq.*); 113, 273 (296); 123, 267 (354); 126, 286 (302 - 304); 133, 277 (316 at n. 91); 134, 366 (381-384).

[43]See specifically BVerfGE 134, 366 at margin n. 22 and 27.

considered as a stringent argument. More important is the fact that the legal systems of the Member States build on the existence of legal tender created by exercising the *lex monetae* of the EU. They would collapse if legal tender no longer existed.[44]

The following situation would be decisive: the ECB calls in all euro banknotes in circulation and stops issuing new banknotes. In addition, the Member States quit minting euro coins. The question would then be whether the EU or the Member States would be allowed to declare a substitute legal tender.

10.3.2.1 Banknotes

In this case, the Member States, or their central banks, would not be allowed to fill the gap by creating new legal tender in the form of notes, as the European Central Bank has the "exclusive right" to authorise the issue of euro banknotes and no other euro banknote may have the "status of legal tender", Article 128 paragraph 1 sentence 3 TFEU. This clause precludes at least the Member States and the other institutions of the EU from issuing any kind of paper sign (token) with the status of legal tender. The monopoly of the ECB to govern the creation of euros is re-confirmed by Article 282 paragraph 3 sentence 2 TFEU with the term "alone". In addition, it is widely accepted—but not beyond any doubt—that the competence of the ECB also includes the specification and design of the notes issued.[45] The

[44]Partially disagreeing in view of the situation in Switzerland between 1930 and 1936, see Krauskopf, note 30 above, p. 248.

[45]At least this is how it is handled in practice:

- Decision of the European Central Bank of 7 July 1998 on the denominations, specifications, reproduction, exchange and withdrawal of euro banknotes, ECB/1998/6, Official Journal of 14. 1. 1999, L 8/36; amended by: Decision of the European Central Bank of 26 August 1999 amending the Decision of the European Central Bank of 7 July 1999 on the denominations, specifications, reproduction, exchange and withdrawal of euro banknotes, ECB/1999/655, Official Journal of 5. 10. 1999, L 258/29;
- Replaced by: Decision of the European Central Bank of 30 August 2001 on the denominations, specifications, reproduction, exchange and withdrawal of euro banknotes, ECB/2001/7, Official Journal of 31. 8. 2001, L 233/55; amended by: Decision of the European Central Bank of 3 October 2001 amending the Decision of the European Central Bank of 3 December 2001 on the denominations, specifications, reproduction, exchange and withdrawal of euro banknotes, ECB/2001/14, Official Journal of 9. 1. 2002, L 5/26;
- Replaced by: Decision of the European Central Bank of 20 March 2003 on the denominations, specifications, reproduction, exchange and withdrawal of euro banknotes, ECB/2003/4, Official Journal of 25. 3. 2003, L 78/16;
- Replaced by: Decision of the European Central Bank of 19 April 2013 on the denominations, specifications, reproduction, exchange and withdrawal of euro banknotes, ECB/2033/10, Official Journal of 30. 4. 2013, L 118/37;

see, also, Krauskopf, note 30 above, p. 244; Panagiotis Papapaschalis, "Article 128 AEUV [*TFEU*]", in: Hans von der Groeben, Jürgen Schwarze & Armin Hatje (eds), *Europäisches Unionsrecht*, seventh edition, (Baden-Baden: Nomos, 2015), at margin n. 7.

division of responsibilities within the European System of Central Banks (ESCB) in view of the issue of banknote has been regulated by the ECB as well.[46]

10.3.2.2 Coins

When framing the Treaty of Maastricht, there was consensus that the competence to issue coins denominated in euro should remain with the Member States[47] following an old tradition in Europe that this power was not vested in central banks but was reserved to the sovereign. A closer analysis of the wording of Article 128 TFEU shows that this difference has been acknowledged by the primary law: "authorise" in para 1 for banknotes, and "approval" in para 2 for coins.[48] As the issue of coins falls within the competence of the Member States, they do not need an authorisation. This was decided despite the fact that no material reasons existed anymore to justify splitting the competences for this specific type of legal tender between two separate institutions,[49] aside from pure fiscal greed as profits from minting coins can be collected directly for the state budgets in this way.[50]

As only *one* monetary policy can rationally exist in a currency area, the EU and the ECB—notwithstanding—had to be given considerable powers in view of coins denominated in euro and issued by the Member States. They are part of the concept of creating a single currency. The volume of an issue needs the approval of the ECB, Article 128 paragraph 2 sentence 1 TFEU. The unitisation and technical specifications of the coins have been set by the EU Council.[51] The rules have to be

[46]Decision of the European Central Bank of 13 December 2010 on the issue of euro banknotes (recast), ECB/2010/29, Official Journal of 9. 2. 2011, L 35/26; amended by: Decision of the European Central Bank of 21 June 2013 amending Decision ECB/2010/29 on the issue of euro banknotes, ECB/2013/16, Official Journal of 6. 7. 2013, L 187/13; Decision of the European Central Bank of 29 August 2013 amending Decision ECB/2010/29 on the issue of euro banknotes, ECB/2013/27, Official Journal of 21.1.2014, L 16/51; Decision of the European Central Bank of 27 November 2014 amending Decision ECB/2010/29 on the issue of euro banknotes, ECB/2014/49, Official Journal of 21.2.2015, L 50/42.

[47]Article 16.3 of the Draft Statute; René Smits, *The European Central Bank*, (The Hague-London-Boston: Kluwer, 1997), p. 205; Freimuth, note 7 above, at margin n. 87; Papapaschalis, note 45 above, margin n. 24; consenting with the result: Hahn and Häde, note 25 above), § 1 margin n. 19, 62.

[48]This careful delineation is blurred by the—once more erroneous—official translation into German ("*genehmigen*" and "*Genehmigung*"); see, also, Papapaschalis, note 45 above, at footnote 60.

[49]Klaus Stern, *Das Staatsrecht der Bundesrepublik Deutschland*, Band II, (Munich: C.H. Beck, 1980), p. 477; Helmut Siekmann, "Article 88", in: Michael Sachs (ed), *Grundgesetz*, seventh edition, (Munich: C.H. Beck, 2014), at margin n. 21; Krauskopf, note 30 above, p. 248.

[50]Helmut Siekmann, "Einführung [introduction]" in: Siekmann (ed), note 7 above, margin n. 135, pointing out that this reservation in favour of the government had already been abolished by the allied powers in Germany after World War II and was re-introduced when establishing the *Bundesbank* in 1957.

[51]Council Regulation (EC) No 975/98 of 3 May 1998 on denominations and technical specifications of euro coins intended for circulation, Official Journal of 11.5.1998, L 139/6; amended by

based upon Article 128 paragraph 2 sentence 2 TFEU,[52] which has priority over Article 133 TFEU,[53] even if this provision has a wide enough scope since the Treaty of Lisbon.[54] From this, it follows that whether the Council has the competence to act as it did may be called into question.

Not only are the volume, unitisation, and technical specifications for euro coins set by institutions of the EU, but also the property of legal tender.[55] It would not legally be possible to pave the way for introducing other types of coins as legal tender by simply repealing or modifying these regulations, even though it is only secondary law in contrast to Article 128 paragraph 1 TFEU.[56]

10.3.2.3 Creation of Legal Tender other than Banknotes and Coins by Member States

From Articles 128, 133, 140 paragraph 3 and 282 paragraph 3 sentence 2 TFEU, it can at least be derived that the primary law assumes the existence of only one currency, the "single" currency named the "euro", within the Member States without a derogation.[57] Legal tender in other denominations should cease to exist after a transition period of six months.[58] From this, it follows that, if a sign (token)—other than notes—is declared legal tender, it must be denominated in euro. The regulations on the issue of coins as legal tender have respected this requirement of the primary law.[59] This, however, is not a final answer to the question of whether the primary law allows the Member States to define legal tender aside from notes whose issue is authorised by the ECB.

Council Regulation (EC) No 423/1999 of 22 February 1999 amending Regulation (EC) No 975/98 of 3 May 1998 on denominations and technical specifications of euro coins intended for circulation, Official Journal of 27. 2. 1999, L 52/2; amended by Council Regulation (EU) No 566/2012 of 18 June 2012 amending Regulation (EC) No 975/98 of 3 May 1998 on denominations and technical specifications of euro coins intended for circulation, Official Journal of 29.6.2012, L 169/8.

[52]Unclear Papapaschalis, note 45 above, at margin n. 27.

[53]Martin Selmayr, "Article 133 AEUV [*TFEU*]", in: von der Groeben, Schwarze and Hatje (eds), note 45 above, margin n. 8, 9, 26.

[54]See, for details, Selmayr, note 53 above, at margin n. 5, 7, who considers this article as a basis for a comprehensive "euro currency law" (margin n. 1, 5); less wide Florian Becker, "Article 133 AEUV [TFEU]", in: Siekmann (ed.), note 7 above, Article 133 AEUV [*TFEU*].

[55]Note 29 above.

[56]Papapaschalis, note 45 above, at margin n. 44, with the argument that the right of the ECB to authorise the issue of coins would otherwise be infringed; in effect, see, also, Selmayr, note 53 above, at margin n. 2.

[57]Even broader Article 3 paragraph 4 TEU: "The Union shall establish an economic and monetary union whose currency is the euro."

[58]Article 15 of Council Regulation (EC) No 974/98, note 29 above; Papapaschalis, note 45 above, at margin n. 1, 35.

[59]See the references in note 51.

The exclusion of Member States or their central banks from implementing and issuing any other kind of legal tender may be derived from Article 3 paragraph 1 lit. c TFEU, which confers the "exclusive competence" in the area of "monetary policy for the Member States whose currency is the euro", upon the Union. The term "monetary policy" covers the creation of legal tender in the form of banknotes, Article 128 paragraph 1 TFEU, and, indirectly, of euro coins by regulating the issue of coins in paragraph 2 of the same article. Further details have to be delineated by secondary law based upon Article 128 paragraph 2 sentence 2 TFEU and Article 133 TFEU. Article 128 and Article 133 TFEU are specific embodiments of "monetary policy" as they are systematically positioned in the chapter on monetary policy.[60] In addition, Article 128 paragraph 1 TFEU is the only clause which touches expressly within this chapter upon the topic of legal tender. The euro is the "key element" of the EU monetary policy.[61]

A reservation in view of the exclusive competence of the EU might, however, exist. In the older German literature, a distinction was made between sovereign acts in monetary law as part of the public law and the regulation of obligations denoted in money as part of the private law.[62] As a consequence, the power to define legal tender as the instrument which had to be accepted as a fulfilment of any monetary obligation might have been attributed to private law, which still belongs to the competences of the Member States. This distinction could not, however, be translated into the categories of the law of the Union. It was not, in its entirety, adopted by the law of the European Community and—later—of the European Union when creating the European Economic and Monetary Union. The public law of the Monetary Union supersedes the private law of the Member States.[63] All competences and powers to create a single currency and to safeguard its functioning were transferred in total to the European level,[64] irrespective of the wording of Articles 128, 133 and 140 paragraph 3 TFEU, which might be interpreted in a more narrow sense. This transfer includes the competence to define legal tender. The detailed and

[60]Part Three: Union Policies and Internal Actions, Title VIII: Economic and Monetary Policy, Chaper 2: Monetary Policy.

[61]Étienne de Lhoneux, "The Eurosystem", in: European Central Bank (ed), note 30 above, p. 161, at 165.

[62]For example, Otto Sandrock, "Der Euro und sein Einfluß auf nationale und internationale privatrechtliche Verträge", Betriebs Berater – BB, 1997, p. 1 at 11; Hahn and Häde, note 25 above, § 23 at margin n. 89 (p. 281 *et seq*.) but stipulating a broad competence for the Union; the differentiation is retained in Principle by Ulrich Häde, Article 133 AEUV [*TFEU*], in: Christian Calliess and Matthias Ruffert (eds), *EUV/AEUV*, fifth edition, (Munich: C.H. Beck, 2016), margin n. 2 but conceding a wide space of discretion to the Parliament and the Council; see, also, de Lapasse, note 31 above, at p. 236: "Monetary Law has never been supposed to govern everything."

[63]Dietrich Schefold, "Die Europäischen Verordnungen über die Einführung des Euro", WM Sonderbeilage 4/1996, p. 1, at 5; Michael Eberhartinger, "Ausgewählte Rechtsfragen zu den Euro-Verordnungen", (1998) *Zeitschrift für Verwaltung*, p. 771 at 772; consenting, see Selmayr, note 53 above, at margin n. 8; unclear, see Häde, note 62 above.

[64]In so far agreeing, see de Lapasse, note 31, p. 237; Selmayr, note 53 above, at margin n. 1.

nuanced provisions in Articles 128 and 133 TFEU for euro banknotes and coins including the power of the institutions of the EU[65] to control their volume, unitisation, technical specifications and safety would largely run at idle if Member States were allowed to create other types of legal tender.

As a result, Article 128 TFEU has to be understood as an exclusive and exhaustive regulation of the matter with a limited exemption from the general rule: to wit, the exclusive competence of the EU, for the issue of coins by the Member States, confirmed by Article 282 paragraph 3 sentence 2 TFEU.[66] The sovereign power to define what (tangible) good or (electronic) instrument has to be treated as legal tender now resides with the EU. Member States whose currency is the euro do not retain the competence to define "legal tender" or to prohibit the use of virtual currencies as endangering the single currency, the euro.[67]

Even upon the basis of this interpretation, the competence of the Member States to define legal tender might be derived from Article 2 paragraph 1 TFEU. Although this clause provides that the Union may "empower" Member States to act within the domain of exclusive competences, it may not be construed as opening the door for the transference of core competences back to the Member States.[68] The creation of legal tender in the form of banknotes over the years had become one of the main

[65]Whether the specification and unitisation of banknotes falls within the competence of the ECB, as it is handled at present supported by the majority of scholars or whether the Council would be allowed to act in this matter following Article 133 TFEU is a question in debate but not relevant for the question here, see for details of the debate Selmayr, note 53 above, at margin n. 16.

[66]Papapaschalis, note 45 above, at margin n. 1, assumes that both paragraphs regulate legal tender although the second paragraph does not use this term explicitly.

[67]Explicitly, Samm, note 27 above, at p. 241; Christoph Ohler, "Die hoheitlichen Grundlagen der Geldordnung", (2009) *Juristen Zeitung*, p. 317, at 318; Angel and Margerit, note 4 above, p. 587; Papapaschalis, note 45 above, at margin n. 45; Selmayr, note 53 above, at margin n. 27; dissenting Herrmann, note 31 above, p. 308 *et seq*., however, not regarding the change in the wording of Article 133 TFEU and misunderstanding the function of section 14 paragraph 1 sentence 2 Bundesbank Act; see Freimuth, note 7 above, at margin n. 79 footnote 86, with a tendency to deny a competence of the Member States to define legal tender; probably also Jean-Victor Louis, *L'Union européenne et sa monnaie, Commentaire J. Maigret*, 3rd edition, (Brussels: Editions de l'Université de Bruxelles, Institut d'études Européennes, 2009), n. 370, p. 263.

[68]Christoph Schaefer, "Die Ermächtigung von Mitgliedstaaten bei ausschließlicher Gemeinschaftszuständigkeit: Regelwidrigkeit in der Kompetenzordnung?", EuR 2008, p. 721 at 735; Christian Calliess, "Article 2 AEUV [*TFEU*]", in: Calliess and Ruffert (eds), note 62 above, margin n. 10; Hans Diekmann and Carsten Bernauer, "Mögliche Rechtsfolgen für vertragliche Verhältnisse bei einer Währungsumstellung eines Mitgliedstaates der Europäischen Währungsunion", (2012) *Neue Zeitschrift für Gesellschaftsrecht*, p. 1172, at 1174; dissenting Martin Seidel, "Der Euro – Schutzschild oder Falle?", Zentrum für Europäische Integrationsforschung, – ZEI, *Working Paper* B 01/2010, p. 26, without proper reasoning; indirectly perhaps also Christoph Herrmann, "Griechische Tragödie – der währungsverfassungsrechtliche Rahmen für die Rettung, den Austritt oder den Ausschluss von überschuldeten Staaten aus der Eurozone", (2010) *Europäische Zeitschrift für Wirtschaftsrecht*, p. 413, at 415, in a brief comment without reasoning.

reasons for establishing central banks at all.[69] Vesting this power outside the central bank would remove one of the characteristic traits of a central bank.[70]

10.3.2.4 Creation of Legal Tender other than Banknotes and Coins by the EU

One possible backdoor still has to be examined: the EU could try to transform some kind of electronic construct into legal tender, following the due course of the legislative process. The EU—not the ECB—might have the necessary competence to do so, because of Article 3 paragraph 1 lit. c TFEU, but it would be highly questionable whether the EU has the power to create a type of legal tender which was unknown before.

Article 133 TFEU can hardly provide the necessary authority. This provision allows the European Parliament and the Council, "without prejudice to the powers of the European Central Bank", "to lay down the measures necessary for the use of the euro as the single currency". The referred powers of the ECB (as an institution of the EU[71]) mainly concern banknotes, the authorisation of their issue and the fixing of their volume. In addition, it is widely accepted that they also comprise the specification and design of the notes issued.[72] The powers of the ECB with regard to coins denominated in euro are considerably more restricted. They consist mainly in giving consent to the overall volume of their issue, Article 128 para 2 TFEU. Design and technical specifications are left to the EU as a whole. This is also the reason why the respective legal acts were enacted by regulations of the EU Council,[73] and not of the ECB, in contrast to banknotes.[74]

The EU may have the power to declare coins legal tender[75] even if this authority is not explicitly provided for in the primary law.[76] Article 133 TFEU is, however, not a suitable basis for declaring anything unknown to the primary law to be legal tender. Coins are a type of money which have been in use for several thousand years and—more importantly—coins are explicitly referred to in the primary law, Article

[69]See Charles Goodhard, *The Evolution of Central Banks*, (Boston MA: The MIT Press, 1988, pp. 20-23 & 123, however, with an underlying sympathy for "free" banking; Proctor, note 25 above, paras. 1.36-1.38; Siekmann, note 22 above, pp. 506-508.

[70]Smits, note 47 above, p. 203 *et seq*.

[71]Article 13 para. 1 recital 6 TEU, falsely translated into German as "organ".

[72]For the practical handling, see the references in footnote 29.

[73]See note 51 above.

[74]See note 45 above.

[75]Article 11 of Council Regulation (EC) No 974/98 of 3 May 1998 on the introduction of the euro, Official Journal of 11.5.1998, L 139/1.

[76]This result was not unanimously accepted because of an alleged lack of a suitable basis in the primary law. Article 109 l EC was interpreted only as a transitory provision for the introduction of the euro and Article 235 EC (now Article 352 TFEU) was considered as too unspecific which is still correct, even if the Commission used it. After Article 133 TFEU was enacted by the Treaty of Lisbon these doubts are now unfounded; see, for details, Selmayr, note 53 above, at margin n. 3.

128 paragraph 2 TFEU. Both arguments are, however, not valid for entirely new instruments, such as some electronic structure chosen at will.

Moreover, a completely new type of legal tender would almost certainly undermine or circumvent the elaborated safeguards to secure the stability of the euro, especially the extensively guaranteed independence of the ESCB and its organs. The safety and stability of this new type of legal tender would be unknown and wide open for undisclosed and almost impossible to detect manipulation by criminals and governments.[77] Article 128 TFEU might, however, cover the issuance of these types of instruments by the ECB parallel to traditional banknotes since the ECB would retain control over its volume, safety, and security overriding Article 133 TFEU as *lex specialis*.

Furthermore, it should be remembered that, despite the alleged decline of the relative importance of banknotes in several Member States, and despite the introduction and dissemination of payment cards and other electronic means of payment, the issuing of "paper money" was, from the beginning, considered one of the characteristic tasks of central banks,[78] including the newly created ECB. The development of these new instruments was already well known at the time of adopting the relevant clauses,[79] and an extension to include other means of payment could have been adopted, but was refrained from.

Finally, the fundamental principle of proportionality would be infringed in the event of an abolition of banknotes and coins as legal tender,[80] as it is enshrined in both the primary law of the EU[81] and the constitutional law of the Member States.[82]

To sum up, a legal obligation to issue banknotes as legal tender or to authorise their issuance has to be acknowledged. It may be called an "institutional guarantee" of legal tender.

10.3.2.5 Secondary Law

The Council Regulation introducing the euro[83] and the Council Regulation specifying euro coins[84] both clearly pre-suppose the existence of cash denominated in

[77]References for a sceptical view on these instruments are given by Selmayr, note 53 above, at margin n. 27.

[78]See footnote 69 above.

[79]Smits, note 47 above, p. 204.

[80]For more details on the (possible) violation of this principle, see Sect. 10.5 below.

[81]Article 1 paragraph 1 and 4 TEU and Protocol (no 2) on the Application of the Principles of Subsidiarity and Proportionality, Official Journal of 26 October 2012, C 326/206.

[82]Annette Theissen, "Die Wirksamkeit des Subsidiaritätsprinzips im Europäischen System der Zentralbanken", Diss. Jur. Augsburg 2005, p. 110; with reservations concurring, see Freimuth, note 7 above, Art. 128 at margin n. 30.

[83]Article 1a and Articles 10-12 of Council Regulation (EC) No 974/98 of 3 May 1998 on the introduction of the euro, Official Journal of 11.5.1998, L 139/1.

[84]Council Regulation (EC) No 975/98 of 3 May 1998 on denominations and technical specifications of euro coins intended for circulation, Official Journal of 11.5.1998, L 139/6.

euro. Their existence blocks the abolition of cash by the ECB and the Member States as well.

10.3.2.6 Interim Result

The abolition of cash would not be in conformity with the laws of the EU. Nor would the Member States have the legal power to enact any changes in the definition of legal tender. This power belongs to the "*ius monetae*" transferred in total to the EU as its exclusive competence.

10.4 The Conformity of Restriction with EU Law

Although a total abolition of cash would not be consistent with the law of the EU, it is still to be questioned whether it would be in conformity with EU law to impose restrictions for its use or to erect obstacles which would de facto prevent the use of legal tender.

Quite frequently, restrictions imposed by Member States are justified with reference to a recital used by Regulation 974/98.[85] In fact, recital 19 of Regulation (EC) 974/98[86] declares "limitations on payments in notes and coins, established by Member States for public reasons" not to be "incompatible with the status of legal tender of euro banknotes and coins, provided that other lawful means for the settlement of monetary debts are available". This line of argumentation is, however, not convincing, mainly for two reasons:

(1) First, it is questionable whether these considerations are compatible with the primary law of the EU. They would allow the (partial) removal of an essential trait of legal tender: the virtue that it has to be accepted for settlement of any kind of monetary obligation.[87] In contrast to all other monetary instruments, it has to be accepted by the creditor if it is offered to him or her. Complementing this characteristic, the creditor of a monetary obligation only has a claim for legal tender. This also holds for payments to a government entity, authority or agency. In 2010, the EU Commission explicitly accepted this trait:

[85]See, for example, Giuseppe Napoletano, "The Legal Protection of the Euro as a Means of Payment", in: European Central Bank (ed), note 30 above, p. 257, at 260; Papapaschalis note 45 above, p. 48, without seeing the problems discussed in the following.

[86]See note 29 above.

[87]Freimuth, note 7 above, Article 128 no 78; Benjamin Beck and Dominik König, "Bitcoin: Der Versuch einer vertragstypologischen Einordnung von kryptographischem Geld", (2015) *Juristen Zeitung*, p. 130, at 135; Beck, note 31 above, p. 581.

> The creditor of a payment obligation may not refuse euro banknotes and coins unless the parties have agreed on other means of payment.[88]

The expectation that legal tender has to be accepted, namely, by cashiers of government entities, has been considered as its inherent characteristic.[89] These traits are perfectly consistent with the "State Theory of Money" as outlined above.[90]

In its judgment on the admissibility of introducing the euro, the German Federal Constitutional Court considered, as an essential trait of "money", that it can be "freely" exchanged into other goods. In this context, it emphasised the special protection of this type of legitimate expectation (*Einlösungsvertrauen*), which it derived from the fundamental protection of property by Article 14 of the Basic Law (*Grundgesetz*), of the German Federal Constitution.[91]

(2) The second argument follows from the nature of a recital. A recital is legally not part of the norm. At most, it gives some insight into the motives of the lawmaker and may serve as argument in interpretation, but it is in no way binding. However, interpretation is only possible if a norm or a clause is open for interpretation and is in need of it; mainly because it is vague, opaque or inconsistent. Such a norm or clause is, however, not in sight. Moreover, the theme of recital 19 is nowhere to be found in the normative part of the regulation to be expounded. For these reasons, arguments from recital 19 have to be dismissed. They lack any normative significance for the legal question to be answered here.

From the property of legal tender it follows that it must be accepted (*Zwangsgeld*).[92] Only marginal modifications, such as the amount of coins that have to be accepted for a payment and the obligation to change notes in cases in which not the exact amount of the owed sum of money is offered, may be consistent with the quality of legal tender in the framework of a "fiat" currency. It is the task of the issuing authority to enforce these rules regardless of whether Articles 128, 133, and 282 paragraph 3 sentence 2 TFEU are mainly interpreted as (mere) empowerments. Empowerments may not only be used at will by the beneficiary. In principle, they also contain an obligation for the empowered to use them. The wording of Article 282 paragraph 4 TFEU confirms this view.

A factual pressure to to refrain from using legal tender is legally questionable and undermines substantially the credibility of a central bank and its task to perform monetary policy. In the end, it would lose control over the currency. The idea of a

[88] Commission Recommendation of 22 March 2010 on the scope and effects of legal tender of euro banknotes and coins (2010/191/EU), Official Journal of 30.3.2010, L 83/70.

[89] Clearly expressed for the Federal Reserve System of the U.S.; however, limited to public cashiers, 12 USC Chapter 3 Sub-chapter XII section 411; for further references, see note 31 above.

[90] See Sect. 10.2.

[91] BVerfGE 97, 350 at 371 *et seq*.

[92] For references, see note 31 above.

"single currency" would be abolished if a multitude of different rules of the Member States on the use of legal tender had to be obeyed. The infringement of the fundamental rights of the individual, specifically, the right to privacy is apparent.

The somewhat more lenient view of the ECB in the past when asked for an opinion in the process of consultation[93] has to be questioned and is under scrutiny; without prejudice to the right of private parties to agree on different rules about how to settle a claim, as long as it is, in fact, a truly free consent and no monopolistic power is employed.

The ECB requires, however, proportionality of the measure under scrutiny. This principle is discussed in the context of civil rights (Sect. 10.5.1 below).

10.5 The Requirements of the German Constitutional Law

10.5.1 Civil Rights

The abolition of cash or restrictions of its use are encroachments of fundamental freedoms. The freedom of profession protected by Article 12 paragraph 1 Basic Law is touched upon, as such measures are, at least in part, aimed at professional activities. For measures changing the monetary system, the German Federal Constitutional Court has also drawn on the protection of property by Article 14 paragraph 1 sentence 1 Basic Law.[94] In any case, the general freedom of action protected by Article 2 paragraph 1 Basic Law could be relevant, not least in its manifestation as commercial freedom. The constitutional right to privacy is touched upon as well.

The severity of the encroachment depends on the nature of the specific measure. The abolition of cash would, of course, be the most intrusive. The indispensable constitutional justification appears to be questionable. Eventually, a final legal assessment would boil down to a test of the proportionality of the specific measure to be judged.

Applying the principle of proportionality, it has to be examined whether the measure under scrutiny has a constitutionally legitimate objective, is suitable to fulfil this objective, is necessary for attaining it, and is proportional in a narrow sense. This means, whether its benefits outweigh its burdens.

[93] See CON/2012/83, CON/2014/4 and CON/2014/37. In France, the restrictions on using cash in Articles L. 112-5, L. 112-6 and L 112-7 of the French Monetary and Financial Code are treated as a "loi de police" even if it is still a criminal offence to refuse to accept legal tender as long as it is the exact amount due, see Caroline Kleiner (2010), *La Monnaie dans les Relations Privées Internationales*, LGDJ: Paris, p. 67, 146, discussing in depth the various meanings of "*lex monetae*" pp. 94–129; see, also, ibid (2009), "Money in Private International Law: What are the Problems? What are the Solutions?", *Yearbook of Private International Law*, Vol. XI, p. 565.

[94] BverfGE 97, 350 at 370.

Arguments in Favour of Restrictions

1. The main argument in favour of reducing the use of cash was cost-effectiveness. The handling of cash was declared expensive and risky; mainly by economists. Empirical evidence is, however, scarce, and in fact tends to show the opposite; at least for small amounts of money to be paid.[95]
2. Another important argument is fighting terrorism and crime in general. For money laundering, the use of cash or at least the availability of high denomination banknotes is allegedly essential. Sound evidence is, however, not visible, and the most dangerous criminals are sophisticated enough to use other means of payment, such as Bitcoins.[96]
3. A third argument is not disclosed so much in public but is probably most important: making the use of cash more costly or abolishing it completely may finally bestow upon the present "unconventional" monetary policy the effectiveness that it appears to be lacking to date.

Arguments in Favour of an Unrestricted Use of Cash

1. Cash does not discriminate.
2. Cash does not imply the risk of insolvency of the issuer.
3. Cash protects privacy. It does not leave traces. This is an interest acknowledged and protected by constitutional law.
4. Cash is, in many situations, efficient. The functionality of other means of payments abroad is dubious, to say the least.
5. Tinkering with a currency, which is solely based upon confidence, is highly imprudent.
6. This holds especially for a multinational currency like the euro.
7. Restrictions unnecessarily augment anti-EU sentiments.

In the words of the German Federal Constitutional Court, money is minted freedom ("*geprägte Freiheit*").[97] No sufficient grounds for such an intrusive measure as the elimination of cash are visible. The overall assessment by Kenneth Rogoff in favour of phasing out paper money is not convincing since it slanted towards the argument of fighting tax evasion and money laundering. To a lesser degree, but also similar, is the verdict on the restrictions of its use. The former president of the German Federal Constitutional Court, Hans-Jürgen Papier

[95]Malte Krüger and Franz Seitz, "Kosten und Nutzen des Bargelds und unbarer Zahlungsinstrumente", Studie im Auftrag der Deutschen Bundesbank, (2014), p. 108.

[96]In contrast to opinions expressed widely by politicians and the media, experts confirm the statement given here; see for example, Friedrich Schneider, "Der Umfang der Geldwäsche in Deutschland und weltweit", Friedrich Naumann Stiftung Freiheit, Potsdam-Babelsberg, 2016, pp. 16–21, criticising substantially the dissenting view of a study by Kai-D. Bussmann on the volume of money laundering, whose results are in part publicised as Kai-D. Bussmann and Marcel Vockrodt, "Geldwäsche-Compliance im Nicht-Finanzsektor: Ergebnisse einer Dunkelfeldstudie", *Compliance-Berater* (2016) 5, pp. 138–143.

[97]BVerfGE 97, 350 (372).

expressed serious doubts regarding the conformity of restrictions of the use of legal tender with German constitutional law. He judges them as non-justified intrusions into civil rights and doubts whether they are suitable and necessary.[98] The population has a right to be left alone by the government unless adequate and convincing grounds for onerous actions can be shown. The effectiveness of the restrictions for using cash in fighting (major) criminality has not been proven adequately and the argument that the use of cash serves as an incentive for vandalism and petty criminality is at best ambigous. It is more a confession of state failure.

What is most important, however, is that all substitutes for legal tender are issued by commercial institutions which potentially can become insolvent. This risk is an unnecessary burden for the economy and the population. It can be avoided by using legal tender. Using cash also allows the direct transfer of values from person to person without depending on a third party.

10.5.2 Social State

The same result may be derived from Article 20 paragraph 1 Basic Law ("social state", *Sozialstaat*). Restricting the use of issued banknotes and coins denominated in euro would mainly affect the least affluent parts of the population. In particular, the aspired "financial repression" has substantial and largely disregarded distributional effects. The distributional effects of greatly reduced interest payments of governmental budgets are unclear, but zero interest on savings destroys retirement plans for the lower middle class. In Germany, at least, the main assets of this section of the population are bank accounts, life insurance, and other monetary instruments. On average, they do not own assets that have profited from the policy such as real estate or common stock. Clearly, the judgment has to differentiate: the abolition or repression of high denominated banknotes may be onerous for business but not in view of the "not so well-to-do" population, mainly protected by the principle of the social state. The existence of easy to handle legal tender with the legitimate expectation that it will be accepted at every business and at every government entity at face value is part of the social-state principle.[99]

[98] See Rogoff, note 8 above, after assessing the various arguments in favour and against the elimination of paper money. Papier is cited in the assessment by the research service of the Federal Parliament, note 4 above, p. 7; also cited in: "Große Bedenken gegen Bargeldobergrenzen", *Frankfurter Allgemeine Zeitung*, 14 June 2016; "Verfassungswidrig?", *Frankfurter Neue Presse,* 14 June 2016, p. 4.

[99] A general reference to this principle is already expressed by Selmayr, note 25 above, p. 36.

10.6 The Legal Consequences of not Accepting Cash

Euro banknotes and coins are legal tender in the Member States whose currency is the euro. They have to be accepted by all creditors of monetary claims—public or private[100]—with some (minor) exceptions such as the amount of coins that can be accepted or the use of high denomination banknotes for paying small debts.[101] If creditors refuse to comply, sanctions from public law or even criminal law might be imposed,[102] which cannot be expounded in detail here. For practical purposes, the consequences in private law are more relevant: the creditor does not lose his or her claim, but has to bear the negative effects of being in the status of "default of acceptance". This may be an argument in favour of the decision of the Administrative Court in the case of the contributions for the public law broadcasting system in Germany.[103] For private persons, Section 293 of the German Civil Code would be relevant. In general, the issuer of legal tender, which does not have a material value close to the nominal value, must enforce the acceptance of this money, otherwise it is a deception of the public, who trust in the inherent promise that this token can be freely exchanged into goods and services.

10.7 Conclusion

From a legal point of view, the elimination of cash would be questionable. It would be an infraction of both the law of the European Union and of German constitutional law. In principle—albeit to a lesser degree and depending on the details—this also holds for mere restrictions of its use. They are, in principle, incompatible with the concept of legal tender whose issuance or authorisation is reserved to the ECB. Moreover they undermine the confidence in the currency and jeopardise the power of the central bank to execute its monetary policy.

[100] Article 10 sentence 2, article 11 sentence 2 Council Regulation (EC) No 974/98 above n. 29; Recital 1(a) of Commission Recommendation of 22 March 2010 on the scope and effects of the legal tender of euro banknotes and coins (2010/191/EU), Official Journal of 30.3.2010, L 83/70; for further references, see Sect. 10.4.

[101] In France, since the time of the revolution, the "code monétaire et financier" requires that a cash payment has to be accepted if it is the exact sum owed. A right for change does not exist; see Angel and Margerit, note 4 above, p. 589.

[102] Examples are given by Angel and Margerit, note 4 above, p. 588.

[103] See footnote 2 above. The court failed, however, to understand the monetary law dimension of the case and completely misinterpreted Section 14 of the Bundesbank Act stating the property of legal tender. Article 128 TFEU was totally ignored.

References

Angel B, Margerit A (2009) Quelle est la portée du cours légal de l'euro? Revue du Marché commun et de l'Union européenne, p. 587
Auerbach AJ, Kotlikoff LJ (1998) Macroeconomics, 2nd edn. The MIT Press, Cambridge
Beck B (2015) Bitcoins als Geld im Rechtssinne. Neue Juristische Wochenschrift, p. 580
Beck B, König D (2015) Bitcoin: Der Versuch einer vertragstypologischen Einordnung von kryptographischem Geld. Juristen Zeitung, p. 130
Becker F (2013) Article 133 AEUV [TFEU]. In: Siekmann H (ed) Kommentar zur Europäischen Währungsunion. Mohr Siebeck, Tübingen
Blanke H-J (1991) Föderalismus und Integrationsgewalt - Die Bundesrepublik Deutschland, Spanien, Italien und Belgien als dezentralisierte Staaten in der EG. Duncker & Humblot, Berlin
Borio C (2015) Comment. In: Bean C, Broda C, Ito T, Kroszner R (eds) Low for long? Causes and consequences of low interest rates. International Center for Monetary and Banking Studies/ ICMB, Geneva/London, Center for Economic Policy Research – CEPR-Press, 2015, Geneva Reports on the World Economy 17, p. 93
Bussmann K, Vockrodt M (2016) Geldwäsche-Compliance im Nicht-Finanzsektor: Ergebnisse einer Dunkelfeldstudie. Compliance-Berater 5:138
Calliess C (2016) Article 2 AEUV [TFEU]. In: Calliess and Ruffert (eds) EUV/AEUV, 5th edn. C. H. Beck, Munich
Dahlmann OR (1960) Das Recht des Geldes. Metzner, Berlin
de Lapasse P (2005) The legal status of the Euro. In: European Central Bank (ed) Legal aspects of the European system of central banks, Liber Amicorum Paolo Zamboni Garavelli. European Central Bank, Frankfurt am Main, p. 235
de Lhoneux E (2005) The eurosystem. In: European Central Bank (ed) Legal aspects of the European system of central banks, Liber Amicorum Paolo Zamboni Garavelli. European Central Bank, Frankfurt aM
Diekmann H, Bernauer C (2012) Mögliche Rechtsfolgen für vertragliche Verhältnisse bei einer Währungsumstellung eines Mitgliedstaates der Europäischen Währungsunion. Neue Zeitschrift für Gesellschaftsrecht, p. 1172
Eberhartinger M (1998) Ausgewählte Rechtsfragen zu den Euro-Verordnungen. Zeitschrift für Verwaltung, p. 771
Endler J (1998) Europäische Zentralbank und Preisstabilität. Boorberg, Stuttgart
Fögen H (1969) Geld- und Währungsrecht. Beck, Munich
Fox D, Velde FR, Ernst W (2016) Monetary history between law and economics. In: Fox D, Ernst W (eds) Money in the western legal tradition. Oxford University Press, Oxford, p. 3
Freimuth C (2013) Article 128 AEUV. In: Siekmann H (ed) Kommentar zur Europäischen Währungsunion. Tübingen, Mohr Siebeck
Goodhart C (1988) The evolution of Central Banks. The MIT Press, Boston, MA
Hahn HJ, Häde U (2010) Währungsrecht, 2nd edn. C.H. Beck, Munich
Häde U (2016) Article 133 AEUV [TFEU]. In: Calliess, Ruffert (eds) EUV/AEUV, 5th edn. C. H. Beck, Munich
Häring N (2015) Beitragsservice reagiert auf Handelsblatt-Experiment, Handelsblatt, 16 June 2015
Häring N (2016) Bargeld auf dem Rückzug. Handelsblatt, 26 January 2016, p. 29
Hartmann G (1868) Über den rechtlichen Begriff des Geldes und den Inhalt von Geldschulden. Leibrock, Braunschweig
Herrmann C (2010a) Griechische Tragödie – der währungsverfassungsrechtliche Rahmen für die Rettung, den Austritt oder den Ausschluss von überschuldeten Staaten aus der Eurozone, 2010, Europäische Zeitschrift für Wirtschaftsrecht, p. 413
Herrmann C (2010b) Währungshoheit, Währungsverfassung und subjektive Rechte. Mohr Siebeck, Tübingen
Hippin A (2016) 'Zivilisationsaufbau' durch digitales Bezahlen. Börsen-Zeitung, 27 Jan 2016, p. 2

Jarass HD, Beljin S (2004) Die Bedeutung von Vorrang und Durchführung des EG-Rechts für die nationale Rechtsetzung und Rechtsanwendung. Neue Z eitschrift für Verwaltungsrecht, p. 1
Jost S (2016) Die Welt. 13 Feb 2016
Kaetzler J (2016) Börsen-Zeitung, 3 March 2016, p. 7
Karlowa O (1869) Kritische Vierteljahresschrift für Gesetzgebung und Rechtswissenschaft. 11(4): 526
Kleiner C (2009) Money in private international law: what are the problems? What are the solutions. Yearb Priv Int Law XI:565
Kleiner C (2010) La Monnaie dans les Relations Privée Internationales. LGDJ, Paris
Knapp FG (1905) Staatliche Theorie des Geldes. Duncker & Humblot, Leipzig
Krauskopf B (2005) How euro banknotes acquire the properties of money. In: European Central Bank (ed) Legal aspects of the European System of Central Banks, Liber Amicorum Paolo Zamboni Garavelli. European Central Bank, ECB, Frankfurt am Main, p. 243
Krüger M, Seitz F (2014) Kosten und Nutzen des Bargelds und unbarer Zahlungsinstrumente. Studie im Auftrag der Deutschen Bundesbank
Lastra R (2015) International Financial and Monetary Law, 2nd edn. Oxford University Press, Oxford
Lenaerts K, van Nuffels P (2011) European Union Law, 3rd edn. Sweet & Maxwell, Thomson Reuters, London
Louis JV (2009) L'Union européenne et sa monnaie. In: Commentaire J. Maigret, 3ème edn. Editions de l'Université de Bruxelles
Mann FA (1992) The legal aspects of money, 5th edn. Clarendon Press, Oxford
Menger C (1883) Untersuchungen über die Methode der Sozialwissenschaften, und der politischen Oekonomie. Duncker & Humblot, Leipzig
Mishkin FS (2016) The economics of money, banking, and financial markets, 11th edn. Pearson, Harlow
Napolitano G (2005) The legal protection of the euro as a means of payment. In: European Central Bank (ed) European Central Bank, Legal aspects of the European System of Central Banks, Liber Amicorum Paolo Zamboni Garavelli. European Central Bank, ECB, Frankfurt am Main, p. 243
Odendahl C (2016) Es gibt kein Grundrecht auf Bargeld. Zeit online, 20 February 2016
Ohler C (2009) Die hoheitlichen Grundlagen der Geldordnung. Juristen Zeitung, 317
Papapaschalis P (2015) Article 128 AEUV [TFEU]. In: von der Groeben H, Schwarze J, Hatje A (eds) Europäisches Unionsrecht, 7th edn. Baden-Baden, Nomos
Papier H-J (2016) Cited in Große Bedenken gegen Bargeldobergrenzen. Frankfurter Allgemeine Zeitung, 14 June 2016; also cited in, "Verfassungswidrig?", Frankfurter Neue Presse, 14 June 2016, p. 4
Procter C (2012) Mann on the legal aspects of money, 7th edn. Oxford University Press, Oxford, p. 631
Ravit JC (1862) Beiträge zur Lehre vom Gelde. Aschenfeldt, Lübeck
Richter R (1990) Geldtheorie, 2nd edn. Springer, Berlin
Rogoff K (2014) Costs and benefits of phasing out paper currency, NBER macroeconomics annual conference, 11 Apr 2014
Rogoff K (2016) Handelsblatt Nr. 185, weekend edition, 23/24/25 September 2016, p. 28
Roosevelt FD (1938) The public papers and addresses of Franklin D. Roosevelt, The year of crisis, 1933: with a special introduction and explanatory notes by President Roosevelt, vol 2. Random House, New York, p. 111
Samm C-T (1997) 'Geld' und 'Währung' – begrifflich und mit Blick auf den Vertrag von Maastricht. In: Weber A (ed) Währung und Wirtschaft, Festschrift für Prof. Dr. Hugo J. Hahn zum 70. Geburtstag. Nomos, Baden-Baden
Sandrock O (1997) Der Euro und sein Einfluß auf nationale und internationale privatrechtliche Verträge. Betriebs Berater, p. 1

Schaefer C (2008) Die Ermächtigung von Mitgliedstaaten bei ausschließlicher Gemeinschaftszuständigkeit: Regelwidrigkeit in der Kompetenzordnung? EuR, p. 721
Schefold D (1996) Die Europäischen Verordnungen über die Einführung des Euro, WM Sonderbeilage 4/1996, p. 1
Schmidt K (1997a) Die 'Staatliche Theorie des Geldes': Jahrhundertwerk oder Makulatur? In: Weber A (ed) Währung und Wirtschaft, Festschrift für Prof. Dr. Hugo J. Hahn zum 70. Geburtstag. Nomos, Baden-Baden, p. 81
Schmidt K (1997b/1998) Vorbem. zu §§ 244 ff. In: von Staundingers, Kommentar zum Bürgerlichen Gesetzbuch mit Einführungsgesetz und Nebengesetzen, Zweites Buch, 13. Bearbeitung. Sellier and Walter de Gruyter, Berlin
Schneider F (2016) Der Umfang der Geldwäsche in Deutschland und weltweit. Friedrich Naumann Stiftung Freiheit, Potsdam-Babelsberg
Schöbener B (2011) Das Verhältnis des EU-Rechts zum nationalen Recht der Bundesrepublik Deutschland. Juristische Arbeitsblätter 43, p. 885
Schumpeter JA (1970) In: Mann FA (ed) Das Wesen des Geldes. Vandenhoeck & Ruprecht, Göttingen
Seidel M (2010) Der Euro – Schutzschild oder Falle? Zentrum für Europäische Integrationsforschung, ZEI, Working Paper B 01/2010
Selmayr M (2002) Das Recht der Wirtschafts- und Währungsunion. Nomos, Baden-Baden
Selmayr M (2015) Article 133 AEUV [TFEU]. In: von der Groeben H, Schwarze J, Hatje H (eds) Europäisches Unionsrecht, 7th edn. Nomos, Baden-Baden
Siekmann H (2013) Einführung. In: Siekmann H (ed) Kommentar zur Europäischen Währungsunion. Mohr Siebeck, Tübingen
Siekmann H (2014) Article 88. In: Sachs M (ed) Grundgesetz, 7th edn. Munich, C. H. Beck
Siekmann H (2015) The legal frameworks for the European system of Central Banks. In: Rövekamp F, Bälz M, Hilpert HG (eds) Central banking and financial stability in East Asia. Springer International Publishing, London, p. 43
Siekmann H (2016) Deposit banking and the use of monetary instruments. In: Fox D, Ernst W (eds) Money in the western legal tradition. Oxford University Press, Oxford, p. 489
Smits R (1997) The European Central Bank. Kluwer, The Hague
Stelter D (2016) Mit der Abschaffung der 500er Note ist ein Tabu gefallen. Börsen-Zeitung, 7 May 2016, p. 4
Stern K (1980) Das Staatsrecht der Bundesrepublik Deutschland, Band II. C.H. Beck, Munich
Summers L (2016) It's time to kill the $100 bill, Washington Post, 16 February 2016
Theile H (2014) Der Sündenbock. Frankfurter Allgemeine Zeitung, 16 November 2014
Theissen A (2005) Die Wirksamkeit des Subsidiaritätsprinzips im Europäischen System der Zentralbanken. Diss. Jur. Augsburg
Thiele C-L (2015) Diskussion um das Bargeld: Hätte eine Abschaffung von Banknoten und Münzen wirklich Vorteile? Ifo-Schnelldienst 13/2015 of 16 July 2015, p. 3
Vischer F Geld und Währungsrecht im nationalen und internationalen Kontext. Helbing Lichtenhahn, Basel
von Spindler J, Becker W, Starke O-E (1973) Die Deutsche Bundesbank, 4th edn. Kohlhammer, Stuttgart
Weidmann J (2016) Handelsblatt, 25 February 2016, p. 30
Wieland V (2016) Cited in: "Große Bedenken gegen Bargeldobergrenzen", Frankfurter Allgemeine Zeitung, 14 June 2016, also cited in, Frankfurter Neue Presse, 14 June 2016, p. 4
Wittkowski B 2016 Börsen-Zeitung, 6 May 2016, p. 1
Wray R (2016) From the state theory of money to modern money: an alternative to economic orthodoxy. In: Fox D, Ernst W (eds) Money in the western legal tradition. Oxford University Press, Oxford, p. 631
Zurbruegg F (2015) Comment. In: Bean C, Broda C, Ito T, Kroszner R (eds) Low for long? Causes and consequences of low interest rates. International Center for Monetary and Banking Studies – ICMB, Center for Economic Policy Research – CEPR-Press, Geneva/London, Geneva Reports on the World Economy 17, p. 94