Siekmann, Helmut

Working Paper
Restricting the use of cash in the European Monetary Union

IMFS Working Paper Series, No. 108

Provided in Cooperation with:
Institute for Monetary and Financial Stability (IMFS), Goethe University Frankfurt am Main


This Version is available at:
http://hdl.handle.net/10419/146869

Terms of use:
Documents in EconStor may be saved and copied for your personal and scholarly purposes.
You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.
If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.
HELMUT SIEKMANN

Restricting the Use of Cash
in the European Monetary Union
Restricting the Use of Cash in the European Monetary Union
- Legal Aspects -

Helmut Siekmann

Clear signs are visible that the use of cash is being increasingly restricted inside the European Monetary Union (EMU). Already for quite some time, financial institutions, but also authorities, have exerted pressure on businesses and consumers to refrain from using cash. Even statutory rules have been passed to prohibit the use of cash exceeding a certain, but 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 to it.
- Businesses refuse to accept cash, namely higher denomination banknotes.
- Government entities require the 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.\(^4\)

\(^1\) E.g. section 13 paragraph 1 sentence 1 n. 1 German vehicle tax act.

\(^2\) 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 on section 9 para 2 sentence 2 RBSiV (Rundfunkgebührenstaatsvertrag) in conjunction with section 10 para 2 of the by-laws of the respective public law broadcasting institution; critical 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).

\(^3\) Section 224 para. 3 phrase 1 of the German tax code (Abgabenordnung).

\(^4\) See e.g. Benjamin Angel/Alénor Margerit, Quelle est la portée du cours légal de l’euro? Revue du Marché commun et de l’Union européenne, n. 532 (2009), p. 587 at 588; Norbert Häring, Bargeld auf dem Rückzug, Handelsblatt 26 January 2016, p. 29, giving the following limits: Slovakia 5000 €, Lithuania 2900 €, Bulgaria 2500 €, Spain 2500 €, Italy 1000 €, Portugal 1000 €, Greece
At least one case is known, in which German law enforcement authorities have considered the mere possession of 9000 Euro to be adequately suspicious to trigger intense criminal investigations, although the possession of such a sum of money is entirely legal in Germany.\(^5\)

On 5 May 2016, the Governing Council of the ECB has decided to end the production and issuance of 500 Euro banknotes.\(^6\)

These measures have been successful to a varying degree in the Member States of the EU whose currency is the euro. In some countries, they lead to a replacement of cash as a means of payment or storage of value on a large scale. In other Member States, like Austria and Germany, cash is still widely used.\(^7\) Here, it has to be left open to what extent this is due to a difference in intrinsic preferences of the acting persons.

---

500 €, for non-euro Member States the following equivalents: Denmark 1340 €, Romania 1100 €; preparation to introduce such a limit in Germany is disclosed by the Federal Ministry of Finance, Börsen-Zeitung, 4 February 2016, p. 6; critical from the constitutional point of view the former president of the German Federal Constitutional Court, Hans-Jürgen Papier, cited in: Große Bedenken gegen Bargeldobergrenzen, Frankfurter Allgemeine Zeitung, 14 June 2016; id., also cited, Verfassungswidrig? Frankfurter Neue Presse, 14 June 2016, p. 4.

5 Hans Theile, Der Sündenbock, Frankfurter Allgemeine, 16 November 2014.

6 "Press release of 4 May 2016:
- 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 criticized by: the President of the German Bundesbank, Jens Weidmann, Handelsblatt, 25 February 2016, p. 30; Daniel Stelter, 7 May 2016; the member of the German Council of Economic advisers, Volker Wieland, cited in: Große Bedenken gegen Bargeldobergrenzen, Frankfurter Allgemeine Zeitung, 14 June 2016, id., cited in: Frankfurter Neue Presse, 14 June 2016, p. 4; anonymous, Börsen-Zeitung, 6 May 2016, p. 6; decidedly in favor of retaining the €500 banknote Sebastian Jost, Die Welt, 13 February 2016: It protects the currency."

7 Christof Freimuth, in: Helmut Siekmann (ed.), Kommentar zur Europäischen Währungsunion, Mohr Siebeck, Tübingen, 2013, Art. 128 at margin no 6. There are also signs that the use of digital money is not growing any more to the extent some governments and financial institutions would like. At the moment, the growth rates of the Digital Money Index calculated by the Imperial College at London and Citigroup has come down to 1.3 %; see Andreas Hippi, „Zivilisationsaufbau“ durch digitales Bezahlen, Börsen-Zeitung, 27 January 2016, p. 2.
The next and considerably more incriminating step would be the total abolition of cash. Macroeconomists, like Lawrence Summers,\(^8\) Kenneth Rogoff, and Peter Bofinger, have explicitly demanded such an interdiction.\(^9\) In a purely theoretical world of macroeconomics 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 basis points negative, as there are costs of holding cash. In the real world staggering impediments and detrimental downsides are visible.

In addition, experience shows that this would probably not be the last step. At least in some countries, chances are high that the population would try to protect itself and use other commodities as a means of payment or 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 interdicted as well, regularly in combination with the threat of draconian punishments in case of disobedience. The same was true for the possession or use of foreign currency. Two well-known examples from the 20\(^{th}\) century may be given for the United States and Germany:

- The possession of gold coins, gold bullions, and gold certificates within the continental United States exceeding five troy ounces was made a criminal offense for all private persons from 1 May 1933 on by Executive Order 6102, signed by President Roosevelt on 5 April 1933.\(^{10}\) Immediately thereafter, the

---

\(^8\) Kenneth Rogoff, Costs and benefits of phasing out paper currency, NBER Macroeconomics Annual Conference, 11 April 2014; most recently \textit{ibid}. 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”.


\(^{10}\) 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,
U.S. dollar was 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) was confiscated in the course of the hyperinflation of 1923. The regulation of 25 August 1923 was based on Article 48 of the constitution which allowed emergency legislation by the president (Notverordnungsrecht). Earlier, the Reichsbank had been granted power to require under certain circumstances the exchange of foreign currencies or precious metals into – by that time already almost worthless – domestic currency, section 9 of the regulation of 8 May 1923.

In a first grasp, these barriers can be divided into three groups:

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

In the present situation, some economists readily acknowledge the abolition as useful and – as experts in constitutional law – quickly come to the conclusion that constitutional concerns are unfounded as a fundamental right for cash did not exist; not really surprising. In any case, the restrictions would serve a good purpose, as they would bestow upon the “unconventional” monetary policy finally the effectiveness it appears to be lacking so far. Lawyers, on the other side, are more in favor of the


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

13 Christian Odendahl, Zeit online, 20 February 2016: „Es gibt kein Grundrecht auf Bargeld.“ [Headline of the essay]

14 Odendahl (above n. 13)
argument, that the restrictions for using cash would hinder money laundering.\textsuperscript{15}

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

I. The nature of cash
II. The conformity of an abolition with EU law
III. The conformity of restrictions with EU law
IV. The requirements of German constitutional law
V. The legal consequences of not accepting cash

I. The nature of cash

According to the State Theory of Money only those signs (\textit{chattels}) serving monetary functions that are created by a state are money and all such signs created by a state are money. \textit{Friedrich Georg Knapp}, professor of economics at the University of Straßburg, is almost unanimously credited for this theory\textsuperscript{16} since he commenced his famous treatise on the “State Theory of Money” in 1905 with these famous words: “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”.\textsuperscript{17} From this starting point, it was well justified and consistent for him to reiterate: “Money is a creation of the state. Only legal tender is money and all legal tender is money”.\textsuperscript{18} Following this definition, the term “money” is equivalent with legal tender – for all practical purpos-

\textsuperscript{15} Joachim Kaetzler, Börsen-Zeitung, 3 March 2016, p. 7; dissenting: Jost (above n. 6); Bernd Wittkowski, Börsen-Zeitung, 6 May 2016, p. 1; also sceptical Weidmann (above n. 6).


\textsuperscript{17} Friedrich Georg Knapp, Staatliche Theorie des Geldes, Duncker & Humblot, Leipzig, 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.]

\textsuperscript{18} Knapp (above n. 17), p. 123, in specific for banknotes.
es. 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”.

The majority of economists has criticized this view as too narrow and favors instead a functional understanding of money: Anything that is generally accepted as medium of exchange, unit of account, and store of value has to be treated as money. Good reasons exist to proceed this way in economic analysis, but they do not justifiy the monopolization of the term “money”. From the legal perspective, money is widely acknowledged as a creation of law, like Knapp assumed. Its “existence has to be

---


20 Gustav Hartmann, Ueber den rechtlichen Begriff des Geldes und den Inhalt von Geldschulden, Leibrock, Braunschweig, 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 but less clear Joh.[ann] Chr.[istian] Ravit, Beiträge zur Lehrre vom Gelde, Aschenfeldt, Lübeck, 1862, p. 12.


23 Also among economists it is consented that this functional view is a definition of economists for economic purposes, Mishkin (above n. 22), at p. 95.

24 See e.g.: Ravit (above n. 20); Hartmann (above n. 20), p. 7, 12-17; Mann (1992, above n. 19),
understood within a legal framework”.  

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”.  

It may be left undecided whether this reasoning is entirely in conformity with the content of that “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 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 permission by the ECB “have the sta-

---

25 Lastra (above n. 24), margin n. 1.29; drawing substantially from Mann (1992, above n. 19), p. 461.

tus of legal tender”, Article 128 paragraph 1 sentence 3 Treaty on the Functioning of the European Union (TFEU). For coins issued by the Member States whose currency is the euro, the status of legal tender follows from Article 11 Regulation 974/98.

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. It is the only money which has to be accepted as fulfilment of a monetary claim. Recent developments, specially the creation and spread of electronic instruments of exchange like bitcoins, do not yet require a modification of this delineation. Aside from other downsides, they do not have the property of legal tender, at least not in Germany.


29 Freimuth (above n. 7) at margin n. 4; disagreeing Bernd Krauskopf, How euro banknotes acquire the properties of money, in: European Central Bank, Legal Aspects of the European System of Central Banks, Liber Amicorum Paolo Zamboni Garavelli, European Central Bank, Frankfurt am Main, 2005, p. 243 at 248; “consistent with tradition” but “does not appear to be absolutely essential”; earlier in favor of a wider understanding of the term “money” Samm (above n. 26), at p. 234 et seq.


31 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 (above n. 24), para 2, 24 footnote 49. The status and function of legal tender in the UK is anyhow awkward as the banknotes issued
In general, nobody is obliged to accept them.\(^{32}\) Another question is whether specific statutes may be enacted to force certain providers of (public) services to accept bank issued instruments of payments, such as credit cards.\(^{33}\)

**II. 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 paragraph as legal tender and legal tender might be essential. An in-depth analysis of the problem has hardly been undertaken so far.

1. **Foundations**

In applying EU law a clear distinction between “primary” and “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, specially the European Economic Community (EEC), and finally the European Union (EU). As this body of law is comprehensive and specifically entrenched,\(^{34}\) 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.\(^{35}\) It is the supreme law of the land. At

\[\text{by the Bank of England have the status of legal tender only in England and Wales, but not in Scotland, see Proctor (above n. 24), para 2.30.}\]

\(^{32}\) Beck (above n. 30), at 581.

\(^{33}\) The Administrative Court of Berlin upheld in a preliminary judgment of 24 June 2015 (docket n. 11 L 213.15) a regulation obliging providers 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 Administrative Court of Berlin in a judgment of 18 December 2015 (docket n. OVG1 S 76.15) (Oberverwaltungsgericht Berlin-Brandenburg, Beschluss vom 18.12.2015 – OVG1 S 76.15), BeckRS 2016, 40395 – beck-online.

\(^{34}\) Amending the primary law is in principle only possible unanimously, Art. 48 TEU; even when using the “simplified” revision procedures following Article 49 paragraphs 6-7 TEU.

\(^{35}\) Koen Lenaerts and Piet van Nuffels, European Union Law, Third edition, Sweet & Maxwell, Thomson Reuters, London 2011, 22-007, with further references.
present, it is enshrined in the Treaty on European Union (TEU) and the Treaty on the Functioning of the European Union (TFEU)\textsuperscript{36} 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”.\textsuperscript{37} This hierarchy of norms may be derived from Article 262 TFEU. Primary and secondary EU law also takes 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 (ECJ)\textsuperscript{38} and has been familiar to other decentralized systems, like the U.S., since its inception.\textsuperscript{39} Only for the extreme cases of a severe (or evident) transgression of competences (\textit{ultra vires}) or a violation of the core content of the constitutional identity (\textit{Verfassungidentität}) of Germany, the Federal Constitutional Court of this country has 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.\textsuperscript{40} In such a case, EU law may not have precedence.\textsuperscript{41}

\begin{thebibliography}{9}
\bibitem{36} Reference in footnote 27.
\bibitem{37} \textit{Lennaerts/van Nuffel} (above n. 35), 22-003.
\bibitem{39} Seminal U.S. Supreme Court, \textit{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.
\bibitem{40} 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).
\bibitem{41} See specifically BVerfGE 134, 366 at margin n. 22 and 27.
\end{thebibliography}
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 reiterated in Article 282 paragraph 3 sentence 2 TFEU when stating: “It [the ECB] alone may authorise the issue of the euro”.

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 might follow that the primary law presupposes the existence of legal tender, banknotes and of coins denominated in euro; however not yet as strict evidence. 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 no legal tender existed anymore.\(^{42}\)

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 Member States would be allowed to declare a substitute legal tender.

a) 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 authorize 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 the Member States and the other institutions of

\(^{42}\) Partially disagreeing in view of the situation in Switzerland between 1930 and 1936 Krauskopf (above n. 29) at p. 248.
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 reconfirmed 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 comprises the specification and design of the notes issued. The 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.

b) Coins


see also Krauskopf (above n. 29), at p. 244; Papapaschalis (above n. 65) at margin n. 7.


tradition in Europe that this power was not vested in central banks but was reserved to governments. 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. As the issue of coins falls into the competence of the Member States, they do not need an authorisation. This was decided despite the fact that no material reasons existed anymore for splitting the competences for this specific type of legal tender between two separate institutions aside from pure fiscal greed as profits from minting coins can be collected directly for the state budgets this way.

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 Member States. They are part of the concept of creating a single currency. The volume of an issue needs approval by the ECB, Article 128 paragraph 2 sentence 1 TFEU. Unitization and technical specifications of the coins have been set by the EU Council. The rules have to be based on Article 128 paragraph 2 sentence 2 TFEU which has priority over Article 133 TFEU even if

consenting with the result: Hahn / Häde (above n. 24), § 1 margin n. 19, 62.

46 This careful delineation is blurred by the – once more erroneous – official translation into German (“genehmigen” and “Genehmigung”); see also Papapaschalis (above n. 45), at footnote 60.


48 Helmut Siekmann, in: Helmut Siekmann (ed.), Kommentar zur Europäischen Währungsunion, Mohr Siebeck, Tübingen, 2013, Einführung, 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 reintroduced when establishing the Bundesbank.


50 Unclear Papapaschalis (above n. 45), at margin n. 27.

this provision has a wide enough scope since the Treaty of Lisbon.\(^{52}\)

Not only volume, unitization, and technical specifications for euro coins are set by institutions of the EU but also the property of legal tender.\(^{53}\) It would legally not be possible to pave the way for introducing other types of coins as legal tender by simply repealing or modifying these regulations even if it is only secondary law in contrast to Article 128 paragraph 1 TFEU.\(^{54}\)

c) 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 can at least be derived that the primary law assumes the existence of only one currency, the “single” currency named euro, within the Member States whose currency is the euro.\(^{55}\) Legal tender in other denominations should cease to exist after a transition period of six months.\(^{56}\) From this 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.\(^{57}\) This is, however, not a final answer to the question whether the primary law allows Member States to define legal tender aside from notes whose issue is authorized by the ECB.

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

\(^{52}\) See for details Selmayr (above n. 51), at margin n. 5, 7, who considers this article as basis for a comprehensive “euro currency law” (margin n. 1, 5); questionable Florian Becker, in: Helmut Siekmann (ed.), Kommentar zur Europäischen Währungsunion, Mohr Siebeck, Tübingen, 2013, Art. 133 TFEU.

\(^{53}\) Above n. 28.

\(^{54}\) Papapaschalis (above n. 45), 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 also Selmayr (above n. 51), at margin n. 2.

\(^{55}\) Even broader Article 3 paragraph 4 TEU: “The Union shall establish an economic and monetary union whose currency is the euro.”

\(^{56}\) Article 15 of Council Regulation (EC) No 974/98 (above n. 28); Papapaschalis (above n. 45), at margin n. 1, 35.

\(^{57}\) See the references in footnote 49.
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 on 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.\(^{58}\) 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.\(^{59}\)

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.\(^{60}\) As a consequence, the power to define legal tender as the instrument which had to be accepted as a fulfillment of any monetary obligation might have been attributed to the private law which still belongs to the competences of the Member States. This distinction could, however, not 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.\(^{61}\) All competences and powers to create a sin-

\(^{58}\) Part Three: Union Policies and Internal Actions, Title VIII: Economic and Monetary Policy, Chaper 2: Monetary Policy.


\(^{60}\) For example *Otto Sandrock*, Der Euro und sein Einfluß auf nationale und internationale privatrechtliche Verträge, Betriebs Berater – BB, 1997, p. 1 at 11; *Hahn/Häde* (above n. 24), § 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*, in: Christian Calliess/Matthias Ruffert (eds.), EUV/AEUV, 5th edition, C.H. Beck, München, 2016, Art. 133 AEUV margin n. 2 but conceding a wide space of discretion to the Parliament and the Council; see also *de Lapasse* (above n. 30), at p. 236: “Monetary Law has never been supposed to govern everything.”.

\(^{61}\) *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-
ingle currency and to safeguard its functioning were transferred *in total* to the European level\(^\text{62}\) 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 nuanced provisions in Article 128 and 133 TFEU for euro banknotes and coins including the power of the institutions of the EU\(^\text{63}\) to control their volume, unitization, technical specifications and safety would largely run at idle if Member States would be 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: exclusive competence of the EU, for the issue of coins by the Member States, confirmed by Article 282 paragraph 3 sentence 2 TFEU.\(^\text{64}\) 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.\(^\text{65}\)

Even on the basis of this interpretation, a competence of the Member States to define legal tender might be construed on the basis of Article 2 paragraph 1 TFEU.

---

\(^{62}\) In so far agreeing *de Lapasse* (above n. 30), at p. 237; *Selmayr* (above n. 51), at margin n. 1.

\(^{63}\) Whether the specification and unitization of banknotes falls into 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* (above n. 51), at margin n. 16.

\(^{64}\) *Papapaschalis* (above n. 45), at margin n. 1, assumes that both paragraphs regulate legal tender although the second paragraph does not use this term explicitly.

\(^{65}\) Explicitly: *Samm* (above n. 26), at p. 241; *Christoph Ohler*, Die hoheitlichen Grundlagen der Geldordnung, Juristen Zeitung – JZ, 2009, p. 317 at 318; *Angel/Margetit* (above n. 4), at 587; *Papapaschalis* (above n. 45), at margin n. 45; *Selmayr* (above n. 51), at margin n. 27; dissenting *Herrmann* (above n. 30), at 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* (above n. 7), 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, 3\(^{\text{e}}\) edition, Editions de l’Université de Bruxelles, Institut d’études Euroéennes, Bruxelles, 2009, n. 370, p. 263.
hough this clause provides that the Union may “empower” Member States to act within the domain of exclusive competences, it may not be construed as to open the door for transferring core competences back to the Member States.\(^{66}\) The creation of legal tender in the form of banknotes over the years had become one of the main reasons for establishing central banks at all.\(^ {67}\) Vesting this power outside the central bank would remove one of the characteristic traits of a central bank.\(^ {68}\)

d) 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 because of Article 3 paragraph 1 lit. c TFEU to do so 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\(^ {69}\)) mainly concern banknotes, the authorization of its issue and the fixing of its volume. In addition, it is widely accepted that they also comprise the specification and design


\(^{67}\) See Charles Goodhard, The Evolution of Central Banks, 1988, pp. 20-23, 123, however with an underlying sympathy for “free” banking; Proctor (above n. 24), para.1.36-1.38; Siekmann (above n. 21) pp. 506-508.

\(^ {68}\) Smits (above n. 45), p. 203 et seq.

\(^ {69}\) Article 13 para 1 recital 6 TEU, falsely translated into German as “organ”.
of the notes issued.\textsuperscript{70} The powers of the ECB in view of 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\textsuperscript{71} and not of the ECB in contrast to banknotes.\textsuperscript{72}

The EU may have the power to declare coins legal tender\textsuperscript{73} even if this authority is not explicitly provided for in the primary law.\textsuperscript{74} Article 133 TFEU is, however, not a suitable basis for declaring anything legal tender which is unknown to the primary law. Coins are a type of money which has been in use for several thousand years and – more important – coins are explicitly referred to in the primary law, Article 128 paragraph 2 TFEU. Both arguments are, however, not valid for entirely new instruments, like 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. 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.\textsuperscript{75}

Furthermore, it should be remembered that despite the alleged decline of the relative

\textsuperscript{70} For the practical handling see the references in footnote 28.

\textsuperscript{71} See above n. 49.

\textsuperscript{72} See above n. 70.


\textsuperscript{74} 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 (above n. 51), at margin n. 3.

\textsuperscript{75} References for a sceptical view on these instruments are given by Selmayr (above n. 51), at margin n. 27.
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,\(^76\) including the newly created ECB. The development of these new instruments was already well known at the time of adopting the relevant clauses\(^77\) and an extension to include other means of payment could have been adopted but had been refrained from.

Finally, the fundamental principle of proportionality would be infringed in case of an abolition of banknotes and coins as legal tender.\(^78\) It is enshrined in the primary law of the EU\(^79\) and the constitutional law of the Member States.

Summing up, a legal obligation to issue banknotes as legal tender or to authorize their issuance has to be acknowledged.\(^80\)

e) Secondary law

The Council Regulation introducing the euro\(^81\) and the Council Regulation specifying euro coins\(^82\) clearly presuppose the existence of cash denominated in euro. Their existence blocks the abolition of cash by the ECB or Member States as well.

\(^{76}\) Above at footnote 38.

\(^{77}\) Smits (n 45), p. 204.

\(^{78}\) More details on the (possible) violation of this principle, below in section IV.

\(^{79}\) 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.


f) **Interim result**

The abolition of cash would not be in conformity with the laws of the EU.

**III. The conformity of restrictions with EU law**

As 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 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.\(^83\) In fact, recital 19 of Regulation (EC) 974/98\(^84\) 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 acceptable; mainly for two reasons:

(1) First, it is questionable whether these considerations are compatible with the primary law of the EU. They would allow to remove (partially) an essential trait of legal tender: the virtue that it has to be accepted for settlement of any kind of monetary obligation.\(^85\) In contrast to all other monetary instruments, it has to be accepted by the creditor if it is offered to her. Complementing this characteristic, the creditor of a monetary obligation holds only a claim for legal tender. This also holds for payments to a government entity, authority or agency. In 2010 the EU Commission has explicitly accepted this trait: “The creditor of a payment obligation may not refuse euro

---

\(^83\) See e.g. *Giuseppe Napoletano*, The legal protection of the euro as a means of payment, in: European Central Bank, Legal Aspects of the European System of Central Banks, Liber Amicorum Paolo Zamboni Garavelli, European Central Bank, Frankfurt am Main, 2005, p. 257 at 260; *Papapaschalis* (above n. 45), at 48, without seeing the problems discussed in the following.

\(^84\) Above n. 28.

\(^85\) Freimuth (above n. 7), Art. 128 no 78; Benjamin Beck/Dominik König, Bitcoin: Der Versuch einer vertragstypologischen Einordnung von kryptographischem Geld, Juristen Zeitung – JZ, 2015, p. 130 at 135; Beck (above n. 32), p. 581.
banknotes and coins unless the parties have agreed on other means of payment. 86

The expectation that legal tender has to be accepted, namely by cashiers of government entities, has been considered as its inherent characteristic. 87 These traits are perfectly consistent with the “State Theory of Money” as outlined above. 88

In its judgement on the admissibility of introducing the euro, the German Federal Constitutional Court (FCC) has considered as an essential trait of “money” that it can be “freely” exchanged into other goods. In this context, it has emphasized 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), the German Federal Constitution. 89

(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 exists that is open for interpretation and is in need of it; mainly because it is vague, opaque or inconsistent. Such a norm or clause is not in sight. Moreover, the theme of recital 19 is nowhere in the normative part of the regulation resumed and expounded.

(3) 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 follows that it must be accepted (Zwangsgeld). 90 Only marginal modifications, like the amount of coins that have to be accepted for a payment and the obligation to change notes in case not the exact amount of the

87 Clearly expressed for the Federal Reserve System of the U.S., however limited to public cashiers, 12 USC chapter 3 subchapter XII section 411; for further references see above footnote 30.
88 Above section I.
89 German Federal Constitutional Court [BverfGE] 97, 350 at 371 et seq.
90 For references see footnote 30.
owed sum of money is offered, may be consistent with the quality of legal tender in the framework of a “fiat” currency.\textsuperscript{91} 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 reinforces this view.

IV. The Requirements of German Constitutional Law

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 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.\textsuperscript{92} 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 severity of the encroachment depends on the nature of the specific measure. 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 \textit{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 apt to fulfill this objective, is necessary for attaining it, and is proportional in a narrow sense. This means, whether its benefits outweigh its burdens.

\textsuperscript{91} For references see footnote 98.

\textsuperscript{92} German Federal Constitutional Court [BverfGE] 97, 350 at 370.
Arguments in favor of restrictions:

(1) The main argument in favor 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.\(^3\)

(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, like bitcoins.\(^4\)

(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 it appears to be lacking so far.

Arguments in favor 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 on confidence, is highly imprudent.

(6) This holds especially for a multinational currency like the euro.

(7) Restrictions augment unnecessarily anti-EU sentiments.


\(^4\) In contrast to opinions expressed widely by politicians and media, experts confirm the statement given here, e.g. Friedrich Schneider, Der Umfang der Geldwäsche in Deutschland und weltweit, Friedrich Naumann Stiftung Freiheit, Potsdam-Babelsberg, 2016, p. 16-21.
In the words of the German Federal Constitutional Court money is minted freedom ("geprägte Freiheit").\textsuperscript{95} No sufficient grounds for such an intrusive measure as the elimination of cash are visible. To a lesser degree, but also similar, is the verdict on restrictions of its use. The population has a right to be left alone by the government unless adequate and convincing grounds for onerous actions can be shown.

2. Social state

The same result may be derived from Article 20 paragraph 1 Basic Law ("social state", \textit{Sozialstaat}). Restricting the use of issued banknotes and coins denominated in euro would mainly affect the least affluent parts of the population. Especially 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 interests on savings destroy retirement plans for the lower middle class. At least in Germany, the main assets of this section of the population are bank accounts, life insurances, and other monetary instruments. On average they do not own assets that have profited from the policy like real estate or common stock. Of course, the judgement 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.\textsuperscript{96}

V. 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

\textsuperscript{95} BVerfGE 97, 350 (372).
\textsuperscript{96} A general reference to this principle is already expressed by \textit{Selmayr} (above n. 24), p. 36.
private\textsuperscript{97} – with some (minor) exceptions like the amount of coins that has to be accepted or the use of high denomination banknotes for paying small debts.\textsuperscript{98} If creditors refuse to comply, sanctions from public law or even criminal law might be imposed\textsuperscript{99} which cannot be expounded here in detail. For practical purposes the consequences in private law are more relevant: The creditor does not lose her claim but has to bear the negative effects of being in the status of “default of acceptance”. This may be an argument in favor of the decision of the Administrative Court in the case of the contributions for the public law broadcasting system in Germany.\textsuperscript{100} 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 \textit{deception of the public} trusting in the inherent promise that this token can be freely exchanged into goods and services.

\textbf{VI. Conclusion}

From a legal point of view, the elimination of cash would be questionable. An infraction of both the law of the European Union and of German constitutional law appears to be likely. In principle – but to a lesser degree and depending on the details – this also holds for mere restrictions of its use.

\begin{footnotesize}
\item[97] Article 10 sentence 2, article 11 sentence 2 Council Regulation (EC) No 974/98 (above n. 28); Recital 1(a) of 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; for further references see above section III.
\item[98] 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/Margerit (above n. 4), at p. 589.
\item[99] Examples are given by Angel/Margerit (above n. 4), at p. 588.
\item[100] Above footnote 2. The court failed, however, to understand the monetary law dimension of the case and misinterpreted completely section 14 of the Bundesbank Act stating the property of legal tender. Article 128 TFEU was totally ignored.
\end{footnotesize}
## IMFS WORKING PAPER SERIES

### Recent Issues

<table>
<thead>
<tr>
<th>No.</th>
<th>Year</th>
<th>Authors</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>107 / 2016</td>
<td></td>
<td>Volker Wieland Elena Afanasyeva Meguy Kuete Jinhyuk Yoo</td>
<td>New Methods for Macro-Financial Model Comparison and Policy Analysis</td>
</tr>
<tr>
<td>106 / 2016</td>
<td></td>
<td>Helmut Siekmann</td>
<td>Konstruktionsfehler bei der Einlagensicherung auf EU-Ebene</td>
</tr>
<tr>
<td>105 / 2016</td>
<td></td>
<td>Athanasios Orphanides</td>
<td>Fiscal Implications of Central Bank Balance Sheet Policies</td>
</tr>
<tr>
<td>104 / 2016</td>
<td></td>
<td>Helmut Siekmann</td>
<td>Preis- und Finanzstabilität: der Primat der Politik, der rechtliche Rahmen und das „ökonomische Gesetz“</td>
</tr>
<tr>
<td>103 / 2016</td>
<td></td>
<td>John B. Taylor Volker Wieland</td>
<td>Finding the Equilibrium Real Interest Rate in a Fog of Policy Deviations</td>
</tr>
<tr>
<td>102 / 2016</td>
<td></td>
<td>Tilman Bletzinger Volker Wieland</td>
<td>Forward guidance and “lower for longer”: The case of the ECB</td>
</tr>
<tr>
<td>101 / 2016</td>
<td></td>
<td>Helmut Siekmann</td>
<td>Ziele, Aufgaben und Befugnisse des Europäischen Systems der Zentralbanken (ESZB)</td>
</tr>
<tr>
<td>100 / 2016</td>
<td></td>
<td>Robert C. M. Beyer Volker Wieland</td>
<td>Schätzung des mittelfristigen Gleichgewichtszinses in den Vereinigten Staaten, Deutschland und dem Euro-Raum mit der Laubach-Williams-Methode</td>
</tr>
<tr>
<td>99 / 2015</td>
<td></td>
<td>Helmut Siekmann</td>
<td>Exit, Exclusion, and Parallel Currencies in the Euro Area</td>
</tr>
<tr>
<td>98 / 2015</td>
<td></td>
<td>Helmut Siekmann</td>
<td>Stellungnahme für die öffentliche Anhörung der Verfassungskommission des Landtags Nordrhein-Westfalen zur Schuldenbremse</td>
</tr>
<tr>
<td>97 / 2015</td>
<td></td>
<td>José María Liberti Amit Seru Vikrant Vig</td>
<td>Information, Credit, and Organization</td>
</tr>
<tr>
<td>96 / 2015</td>
<td></td>
<td>Patrick Tuschl</td>
<td>Rechtsgrundlagen für die Vereinbarkeit von Finanzhilfen für Kreditinstitute mit dem Beihilferecht der EU im Rahmen der Finanzmarktkrise</td>
</tr>
<tr>
<td>95 / 2015</td>
<td></td>
<td>Athanasios Orphanides</td>
<td>Fear of Liftoff: Uncertainty, Rules and Discretion in Monetary Policy Normalization</td>
</tr>
<tr>
<td>94 / 2015</td>
<td></td>
<td>Bettina Brüggemann Jinhyuk Yoo</td>
<td>Aggregate and Distributional Effects of Increasing Taxes on Top Income Earners</td>
</tr>
<tr>
<td>Year</td>
<td>Authors</td>
<td>Title</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>-------</td>
<td></td>
</tr>
<tr>
<td>93 / 2015</td>
<td>Tobias H. Tröger</td>
<td>Regulatory Influence on Market Conditions in the Banking Union</td>
<td></td>
</tr>
<tr>
<td>92 / 2015</td>
<td>Janis Skrastins, Vikrant Vig</td>
<td>How Organizational Hierarchy Affects Information Production</td>
<td></td>
</tr>
<tr>
<td>91 / 2015</td>
<td>Florian Hoffmann, Roman Inderst, Marcus Opp</td>
<td>Regulating Deferred Incentive Pay</td>
<td></td>
</tr>
<tr>
<td>90 / 2015</td>
<td>Helmut Siekmann</td>
<td>The Legality of Outright Monetary Transactions (OMT) of the European System of Central Banks (publ. in: Rövekamp / Bälz / Hilpert (eds.), Central Banking and Financial Stability in East Asia, 2015, pp. 101-123)</td>
<td></td>
</tr>
<tr>
<td>89 / 2015</td>
<td>Helmut Siekmann</td>
<td>The Legal Framework for the European System of Central Banks (publ. in: Rövekamp / Bälz / Hilpert (eds.), Central Banking and Financial Stability in East Asia, 2015, pp. 43-86)</td>
<td></td>
</tr>
<tr>
<td>88 / 2015</td>
<td>Florian Deuflhard, Dimitris Georgarakos, Roman Inderst</td>
<td>Financial Literacy and Savings Account Returns</td>
<td></td>
</tr>
<tr>
<td>87 / 2015</td>
<td>Falko Fecht, Roman Inderst, Sebastian Pfeil</td>
<td>A Theory of the Boundaries of Banks with Implications For Financial Integration and Regulation</td>
<td></td>
</tr>
<tr>
<td>86 / 2014</td>
<td>Markus Behn, Rainer Haselmann, Thomas Kick, Vikrant Vig</td>
<td>The Political Economy of Bank Bailouts</td>
<td></td>
</tr>
<tr>
<td>85 / 2014</td>
<td>Elena Afanasyeva, Jochen Güntner</td>
<td>Lending Standards, Credit Booms and Monetary Policy</td>
<td></td>
</tr>
<tr>
<td>84 / 2014</td>
<td>Athanasios Orphanides</td>
<td>Are Rules and Boundaries Sufficient to Limit Harmful Central Bank Discretion? Lessons from Europe</td>
<td></td>
</tr>
<tr>
<td>83 / 2014</td>
<td>Tobias H. Tröger</td>
<td>How Special Are They? – Targeting Systemic Risk by Regulating Shadow Banking</td>
<td></td>
</tr>
<tr>
<td>82 / 2014</td>
<td>Markus Behn, Rainer Haselmann, Vikrant Vig</td>
<td>The Limits of Model-Based Regulation</td>
<td></td>
</tr>
<tr>
<td>81 / 2014</td>
<td>Volker Wieland, Maik Wolters</td>
<td>Is there a threat of self-reinforcing deflation in the Euro area? A view through the lens of the Phillips curve</td>
<td></td>
</tr>
<tr>
<td>80 / 2014</td>
<td>Hermann Remsperger</td>
<td>Der makroprudenziale Komplex: der Prozess, das Schloss, das Urteil</td>
<td></td>
</tr>
</tbody>
</table>