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The Fiscal-Monetary Nexus in Germany

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The fiscal-monetary nexus in Germany

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Abstract

In this paper, the focus lies on the way the German government spends, how it spends and what the connection between finance ministry and central bank is. The institutions involved in the process are identified and discussed. As a member of the Eurozone, Germany's national central bank is not allowed to buy sovereign securities on its own account. The German government uses taxes and revenues from sovereign security issues to finance its spending, continuing the institutional framework that existed during the era of the *deutsch mark*. This description confirms the idea that 'the state spends first' also in the Eurozone and that it makes sense to consolidate central bank and government(s) even when a government is not issuing a sovereign currency.

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1. Introduction

In the last years, interest in the workings of fiscal and monetary policy and their interactions has been rising. During times of crisis, especially in the Eurozone, it was easily visible that fiscal and monetary belong together, that a crisis in one part will affect the other. The “doom loop” in the Eurozone, where government debt ratings were falling, thus decreasing the value and hence the collateral of the corresponding national banks, creating liquidity problems that would lead to more uncertainty and hence push government debt ratings further down, was one of the most prominent.¹ Tymoigne (2014, 2016) has examined the monetary-fiscal interactions for the case of the US, an issuer of its own sovereign currency.² Cesaratto (2016) notes that ‘the state spends first’ and confirms the consolidation hypothesis, which states that central bank and Treasury should be seen as one to understand the monetary circuit of state money for the US. He concludes that further research on the actual institutional mechanism through which “the state spends first” is still necessary, in particular in the Eurozone. In the following, I present an account of German government spending.

The introduction of the Euro in 1999 created a monetary experiment that has been discussed in academia over many years. 20 years into the euro, the Eurozone economy is still recovering from the shock of the Great Financial Crisis. Policy makers and other actors were surprised on many fronts. Until November 2009, sovereign securities issued by Eurozone governments were treated as almost identical and hence the yield was more or less the same. This meant that those trading in the markets that thought Eurozone governments could not go bankrupt dominated. The Bundesbank (2007, 52) had supported these ideas by claiming that German treasury bonds would be risk-free. Only in late 2008 it dawned on market participants that they had overseen the possibility of default. Spreads started to rise and widen after the fall of Lehman Brothers, then yield spreads started to widen significantly with the start of the fiscal crisis in Greece in late 2009, only to come down again after the announcement of Mario Draghi in July 2012 to defend the Euro “whatever it takes”. In the meantime, the Greek government had restructured its sovereign debt twice, wiping more than €100 billion off its balance sheet.

¹ It was stopped by the ECB first announcing that it would purchase sovereign securities and then actually following through.

² See also Wray (2016).

Also, fear of an exit of Greece from the Euro zone – the so-called ‚Grexit‘ – started to make other Europeans nervous about their financial assets and liabilities. Sinn (2012) brought the payment system of the Eurozone (TARGET2) to attention. Whelan (2013) and Cesaratto (2013) subsequently criticized his ideas about how the system works. While the TARGET2 payment system is critical to the functioning of the Eurozone banks, as Lavoie (2015) stresses, it does not say much about the functioning of government spending, which was often (falsely) blamed for the crisis, particularly in the context of Greece, and which triggered the discussion of TARGET2 in the first place. So, now that we know how banks make payments, how does a government make a payment in the Eurozone?

Given that governments of the Eurozone received loans from the Troika, constituted by International Monetary Fund, European Commission and European Central Bank, it seems like the governments of Greece, Ireland, Spain, Portugal and Cyprus “ran out of money”. This is contrasted by the German finance agency advertising German sovereign securities as “risk-free” on their website until late 2014.³ It raises the question whether governments in the Eurozone face a budget constraint or not. This question will be taken up again later.

In the following, the fiscal-monetary nexus of Germany will be examined. After briefly reviewing the literature, the very long section three shifts the focus to the actual institutions and mechanisms that execute government spending and the issuance of sovereign securities on behalf of the German government. This is followed by a discussion of the ideas that “the state spends first” and that government and central bank can and should be consolidated in order to grasp the workings of state money. In section five I conclude.

2. Literature Review

Questions that are as practical as how a government actually spends are not addressed very often in the academic literature. A search in the IDEAS/RePEc database for ‘Zentralkonto’, which is the name of the German government’s bank account, did not return any results. However, there had been discussions on financing of the state by a central bank. Socher and Smekal (1984) provide us with a discussion of Germany from the perspective of bankers and

³ The Finanzagentur did not respond to my inquiry by e-mail from March 1st 2015 why they would see German treasury securities as risk-free. It silently dropped the words ‘risk-free’ shortly thereafter.

central bankers. The contrast to Hansmeyer (1983) is stark. These proceedings of the German-speaking economist's association – with the title “State financing undergoing changes” – does not contain any useful details on how the state actually finances itself and instead is full of monetarist ideas. Deutsche Bundesbank (1998) in its history of the deutschmark at fifty does not include any information about the fact that it technically runs the German government's accounts. The high-level report on public debt published as Holtfrerich et al. (2015) does not contain any Chartalist views either. Gabrisch (2013) promotes the idea of a Euro Treasury, nevertheless the idea that the state spends before it taxes is not visible. Bibow (2013) and Ehnts (2016) discuss the Euro Treasury from a Neo-Chartalist perspective, Vogl (2017) examines the link between finance and sovereignty from a historical perspective.

Today's German textbooks in public finance do not explicitly describe the way the government actually spends.⁴ There are some historical accounts of financial crises where the fiscal-monetary nexus is examined. For instance, Aftalion (1990) revisits the public finances of France before, during and after the French Revolution in some detail. Recently, interest in the fiscal-monetary nexus has been rising, following the publication of Wray (1999) and the renewed interest in questions relating to government debt. Axilrod (2013, 25) states that “such a government-central bank connection is implicit in all countries”, pointing out among other things that profits of the Federal Reserve Bank are handed over to the U.S. Treasury.⁵ Tymoigne (2014) explicitly examines the relations between US Treasury and Fed. That the Federal Reserve Banks are fiscal agents of the state is undisputed.⁶ The same goes for Germany, where the Bundesbank explicitly recognises its non-exclusive role as a fiscal agent of the federal government.

⁴ See Zimmermann et al. (2009) as an example for what is not there: an account of how the government actually spends.

⁵ He does not mention that the Eurozone features a more indirect setup where the connections between the fiscal and the monetary are neither obvious nor complete.

⁶ See DeCorleto and Trimble (2004) for a view published in the Federal Reserve Bulletin.

3. Institutions: government spending and debt management⁷

The German ministry of finance is called the *Bundesfinanzministerium* and is located in Berlin.⁸ The German government has a general account which is called the *Zentralkonto des Bundes* (central account of the federal government). According to §79 of the *Bundeshaushaltsordnung*, which is the federal financial regulation, managing accounts payable, accounts receivable and general ledger is the task of the *Bundeskasse* (federal exchequer), with the exception of tax income, which is run by the state level financial administrations (*Landesfinanzbehörden*).⁹ The *Bundeskasse*, located in Halle and Trier, belongs to the German ministry of finance, which can choose one of its institutions to host the *Zentralkasse* (central exchequer). Today it is located in Bonn, the former capital of Germany, inside the Center of Competence for Federal Cash Management and Accounting (*Kompetenzzentrum für das Kassen- und Rechnungswesen des Bundes*). It administers the *Zentralkonto*, which technically belongs to the *Deutsche Bundesbank*, the German national central bank.

Since the introduction of the euro, the Bundesbank is part of the European System of Central Banks (ESCB). The task of the ESCB is to carry out central banking functions for the Eurozone. The European Central Bank (ECB) itself is not allowed to provide any type of direct financing to the German government. By direct finance it is meant that the ECB purchases German government bonds in the primary market, thus expanding its balance sheet. The ECB announced what it calls Outright Monetary Transactions (OMT) in September 2012. Since March 2015, the ECB purchases sovereign bonds on the secondary market under the Public Sector Purchase Programme (PSPP). It buys sovereign bonds from the private sector, which leads to an increase in the amount of reserves. Whether this increase is permanent or triggers other balance sheet operations depends on market conditions and policy stance. Given that the deposit rate of the ECB has been negative for some time, the increased liquidity has meant that the overnight interbank market interest rate (EONIA), which will be replaced by the Euro short-term rate (€STR) in October 2019, will be close to the deposit rate, which stands at -0.4% in summer 2019. It has also meant that the exchange rate of the Euro was put under constant pressure.

⁷ The following section heavily draws on the description in Ehnts (2016, pp. 102-126).

⁸ In the following, I have translated the German institutions into English as best as I can. Other vocabulary might be used by other authors, which is why the German names are given.

⁹ It is of no interest here how the budgeting process works. It is described in Bundesministerium der Finanzen (2008).

The ECB is not free to act in the primary market, where sovereign securities are issued. This peculiar feature of institutional design is enshrined in Article 123 of the Lisbon Treaty:

1. Overdraft facilities or any other type of credit facility with the European Central Bank or with the central banks of the Member States (hereinafter referred to as ‘national central banks’) in favour of Union institutions, bodies, offices or agencies, central governments, regional, local or other public authorities, other bodies governed by public law, or public undertakings of Member States shall be prohibited, as shall the purchase directly from them by the European Central Bank or national central banks of debt instruments.

Therefore, the ECB is not a possible counterparty in the primary market where the German government issues its sovereign securities. The operations are not actually run by the ministry itself. Federal debt management is the task of the *Deutsche Finanzagentur GmbH*, which translates as the German finance agency. It does not do anything else besides federal debt management on behalf of the German ministry of finance. The agency is based in Frankfurt am Main in proximity to the ECB and private sector banks. It has been chartered as a corporation in 2000. The only shareholder is the German ministry of finance.

The reason for issuing sovereign bonds is that the German government can only rely on this method of financing once tax receipts are spent. This is different from the US Federal government, where Tymoigne (2014, 10) lists other reasons for bond issuance in the US, among them to provide a means of payment and to help the Federal Reserve in its interest rate stabilization operations. The German government is very much like the government of a US state as the central bank only executes payments as long as there is a positive balance on the (state) government’s account.¹⁰ The balance is positively affected by tax revenues and bond sales. Therefore, the German government issues bonds in order to increase its account at the Bundesbank.

When ECB president Mario Draghi promised to save the Euro “whatever it takes” he changed the monetary regime. Expectations were that the ECB would act as a dealer of last resort, thus ensuring that national government bonds are risk-free assets. In this light, the situation of the Eurozone national governments is not like those of the US state governments, but like that of the US Federal government with a political constraint that is just like the US debt ceiling. The Stability and Growth Pact constraints government spending, or rather, the resulting budget deficit position. From this perspective, Eurozone governments would have regained a part of

¹⁰ The Federal Reserve has announced in March 2020 that it will buy up municipal bonds inside its asset purchase programs. This would make state governments in the US more like the US federal government.

their monetary sovereignty. Since they use a foreign currency – they cannot produce Euros as they wish – and therefore have no control over the exchange rate to the “other” national Euros, Eurozone governments are still far away from full monetary sovereignty.¹¹

The process of sovereign security issuance is organized by the German finance agency, which organizes the primary market with the help of the Bundesbank (Bundesbank 2007, 52). There is a group of banks which participates in this market. They are known as Bund issues auction group (*Bietergruppe Bundesemissionen*). “Bund” is an abbreviation for “German federal bonds” that is widely used in financial markets. It will be used as a substitute for all German sovereign securities from now on. Only banks and their affiliates that are based in the European Union can become a member of this group which currently includes 37 banks.¹² Some of these banks are affiliates of non-European banks, namely Japan and the United States. Those banks that form the Bund issues auction group are supposed to acquire at least 0.05% of all weighted sovereign securities issued each year.¹³ Failure to do so will lead to dismissal from the group. Applications to join the group can always be brought forward, even directly after dismissal. The sovereign securities are sold by tender. The minimum bid is one million euros. Primary market dealers make a bid by quoting a percentage of the nominal value of the bond and indicating the quantity they wish to acquire. They are not allowed to directly quote the effective yield. Settlement takes place a short time after the auction. After settlement, stylized T-accounts of the German Finance Agency and primary market dealers (banks) look like this:¹⁴

Figure 1: Stylized T-accounts of the German Finance Agency

| _____ G.F.A. _____ | _____ banks _____ |
|--------------------|-------------------|
| + BuBa deposits | - reserves |
| - bunds | + bunds |

Source: compiled by author

¹¹ The case of Cyprus made clear that one Euro in Cyprus does not equal one Euro elsewhere at all times. Since this can happen anywhere, it means that one has to imagine that each country produces its own Euro deposits. These are promised to be par with cash and reserves in Euro, but that promise might be broken.

¹² The list is publicly available via the website of the German Finance agency. There are some legal requirements to become a member of the group issued by the German central bank.

¹³ The wording is “acquire” (*übernehmen*) and not “buy” (*kaufen*) for a reason, as will be explained below. The weight depends on the maturity of the securities.

¹⁴ BuBa is short for Bundesbank. Note that banks’ deposits at the Bundesbank change their name when credited to the government’s account.

The German finance agency has acquired central bank deposits from the primary market dealers, whereas the latter have acquired bunds (German bonds). The driving force is arbitrage. Obviously, banks prefer interest-bearing assets to non-interest-bearing assets. Policy rate and short-term sovereign bond yields do not differ by much because of arbitrage that banks engage in. It runs along the following lines.¹⁵ Given collateral, banks can borrow reserves from the ECB at the main refinancing operations fixed rate. Since bunds are eligible as collateral at the ECB, reserves can be borrowed at 0.25%.¹⁶ Banks that can buy bunds at a price that allows them to earn a yield of more than 0.25% are thus to make a profit from this operation. To make this profit, they need to borrow reserves in order to buy bunds.¹⁷ In “normal” times, interbank borrowing is cheaper than borrowing from the ECB, but if the interbank market freezes the ECB will still lend against collateral.¹⁸ This is why the key interest rate of the central bank and the effective yield on sovereign securities of the shorter maturities do not diverge much. After all, the ECB is indirectly financing all government bond sales by Eurozone Treasuries.

The Bundesbank provides an electronic market platform for the members of the Bund issues auction group. It has been named bund bidding system (*Bund Bietungs-System*). There have been 54 auctions so far in 2019 (last one on Aug 28), and twice a year the Bundesbank publishes a ranking of the banks by value of what was acquired. As has been mentioned above, the ECB is not a participant on this market, but the Bundesbank is. It acts as a market maker on behalf of the German finance ministry. The Bundesbank does not acquire sovereign securities in the primary market. The German finance agency routinely keeps a share of the emission in its own books for the purpose of market making (*Marktpflege*). The maximum number of bunds that can be moved into the books of the German finance agency is determined by law. Article 2 paragraph 5 of the budget law for credit authorizations (*Haushaltsgesetz für Kreditermächtigungen*) states that the agency can finance by loans up to 5% of the value of actual bunds for market making purposes. According to the agency, the share of bunds kept on its books varies quite substantially from issue to issue, but it averages about 20% since 2005. This share is later placed on the secondary market by the Bundesbank on behalf of the German finance agency.

¹⁵ A second possibility is arbitrage between primary and secondary market, which is described below.

¹⁶ As of September 2019.

¹⁷ We assume that normally banks minimize their holdings of reserves since it is costly.

¹⁸ The ECB has no discretion and must lend against good collateral. However, it defines what it accepts as collateral. See Bindseil et al. (2017) for more detail on the collateral framework of the ECB.

The secondary market for bunds is large. They are traded on German stock exchanges, diverse international electronic trading platforms as well as over-the-counter (OTC). Demand comes from (re)insurance companies, pension funds, hedge funds, money market funds, sovereign wealth funds and others. Bid/ask spreads are the tightest in the Eurozone and daily turnover is €20 billion, as the *Deutsche Finanzagentur* (2014) advertises. On the secondary market, the German finance agency acts as a market maker. It describes its involvement as “helping out” in case of stress, but only on a “case-by-case basis”. It sells, but it also buys, mostly on the interbank market. The agency also has access to the swap market, which allows it to restructure the maturities of the debt portfolio as it wishes.

Repurchase agreements (repos) and securities lending are also used by the German finance agency. This means that even banks without sufficient liquidity can engage in arbitrage. This means that demand for bunds will not be lacking because of a “lack of money” on the part of the primary dealers. Given the ban of direct financing from the ECB and the limits of buying up bunds on the secondary market, this is important to understand in the context of the Eurozone.

It ensures that the German finance agency can remove the bunds from its balance sheet, even if counterparties do not have the necessary amount of reserves available. To ensure that the government never runs out of money, there are additional possibilities to ensure solvency. The minister of finance is authorised to borrow through “loans” up to ten percent of the government budget.¹⁹ According to the constitution’s (*Grundgesetz*) art. 115, this ceiling can be removed in case of natural disasters or emergencies that are outside of the control of the state. For repurchase agreements, another ten percent of the government budget can be made available in the form of loans. The government would issue sovereign bonds that it would lend to the central bank, which would then use them as collateral in its monetary operations. In the German budget 2017 (*Haushaltsgesetz 2017*) it is stated that no loans will be used to finance spending.

In the last years, there have not been any doubts about the solvency of the German government. Demand for bunds was so high that primary market dealers engaged in arbitrage with respect to the secondary market, buying bunds and selling them at prices that implied a negative yield. Apparently, some secondary market participants preferred to lose a little rather than to risk

¹⁹ The German word „Kredit“ is used usually when it comes to describe government borrowing. The word translates as both „credit“ and „loan“ and its use is somewhat ambiguous. Apparently, the law makers assumed that government borrows, just like a household or firm.

losing a lot in other asset classes. In July 2012, a German sovereign security with a maturity of two years was auctioned off in the primary market at a price that implied a yield of -0.06 percent. About a week later Mario Draghi issued the “whatever it takes” sentence. Therefore, it seems that German sovereign securities are de facto risk-less. As long as the bunds continue to be denominated in euros and the ECB promises to buy them at face value or at a premium (driving yields to negative territory), there is little reason to doubt. Germany, in the context of the Eurozone, is surely too big to fail. Before German solvency is in doubt, political pressure on the ECB will surely intervene. In 2016, German bunds with a maturity of ten years turned negative for the first time. By August 2019, all German bund yields were negative.

Bunds are normally issued in euros, which is legal tender in Germany and the rest of the Eurozone and, more importantly, the currency in which taxes are paid. However, there are some bund issues that are special. In 2005, bunds were issued in US-dollars and in 2006 an inflation-index version was sold.²⁰ The German central bank and the Treasury are not connected by the use of Treasury Tax and Loan (TT&L) notes like in the US. There, tax payments are left partly with the banking system, ensuring that liquidity does not collapse completely at a time when tax payments are made.²¹ Under that program tax payments go into accounts at the private banks instead of the Treasury’s accounts. This is done to make monetary policy easier because otherwise tax payments would drain reserves and trigger Fed actions elsewhere in response to pressure on the short-term interest rate in the interbank market. The Bundesbank does not shift around government deposits between its own balance sheet and that of other banks like in the US.²²

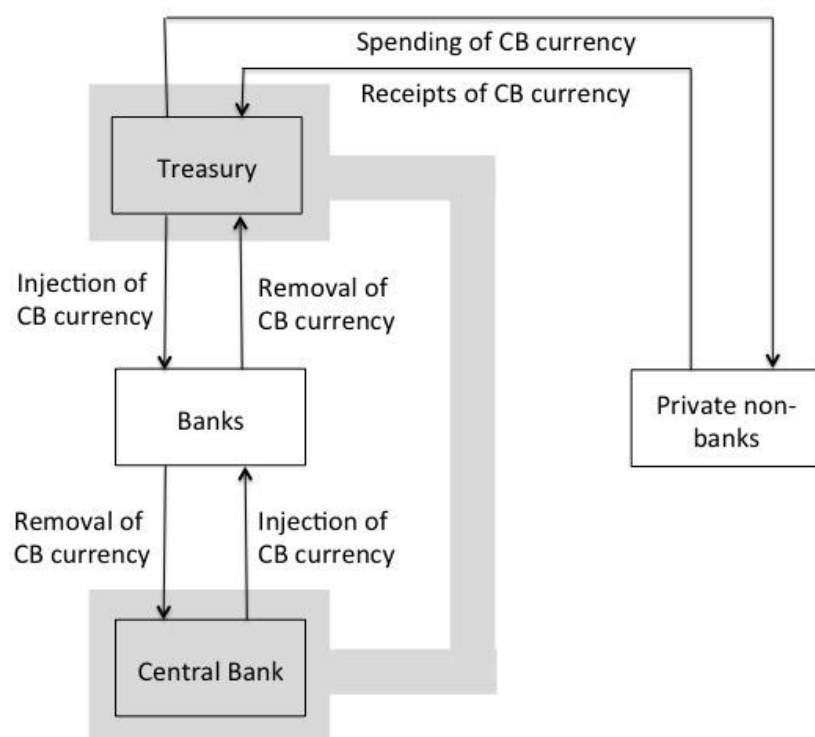
The following graph summarizes the monetary circuit in the Eurozone, with Germany chosen as the example. The ECB is the monopoly issuer of currency, but currency is injected and removed exclusively via the banking system. There are no direct interactions between ECB and national Treasuries since this is forbidden by Art. 123 of the Lisbon Treaty. The ECB and national central banks are prohibited from purchasing debt instruments directly from national governments.

²⁰ In April 2014, the public bank *Kreditanstalt für Wiederaufbau* (Bank for Reconstruction) issued bonds denominated in renminbi. If the German government would bail out banks with non-euro liabilities in the future, its solvency might be in danger nevertheless.

²¹ See Lang (1979) for a description and Fullwiler (2008) for an introduction to modern central banking operations.

²² This has been confirmed by the Bundesbank answering my private e-mail (Anfrage 2014/009266).

Figure 2: The monetary circuit with central bank and Treasury in the case of Germany



Source: compiled by author based on Figure 2 in Tymoigne (2014)

When during the Eurozone crisis national governments, starting with that of Greece, had trouble to finance spending, the ECB could not directly help, but instead flooded the banking system with liquidity by buying up Greek bonds through its Securities Market Programme (SMP). This was not enough to help the Greek government and ensure that the Greek government could continue to spend. In the Eurozone, banks are indirectly financing the national governments with money issued by the ECB. Government bonds in the Eurozone are never risk-free because banks might stop buying them. If the ECB does not want to or cannot buy up all government bonds of a national government, there is the possibility of insolvency risk. This means that in times of economic distress there is a strong tendency for bonds yields to go up, which is not helping economic recovery. Other monetary systems, like the US dollar zone or the Canadian dollar zone, do not have this problem.

With the expanded asset purchase programme the ECB buys public and private bonds on the secondary market, thus restoring the arbitrage possibilities for banks with respect to these debt instruments. While in terms of functionality this setup is convincing, there are still the national debt brakes and the rules of the Stability and Growth Pact. Also, the Eurozone was built in a way that gave financial markets power over governments by design.

4. ‘The state spends first’ and the consolidation hypothesis

The above description confirms the idea that, as Cesaratto (2016) puts it, “the state spends first” also in the Eurozone and that it makes sense to consolidate central bank and government(s) even when a government is not issuing a sovereign currency. In the Eurozone, the ECB finances a part of government spending by national governments via the banking system. Since governments also use tax revenues for spending, not all government spending is financed by the ECB via the banks. As Cesaratto (2016, 45), we are able “to show that the Keynesian logic that the state spends first also prevails without consolidation”. Therefore, government spending influences production which anticipates this spending. This production is pre-financed by the banking system or the private sector more generally. Final finance comes through taxes and saving, as stated by Cesaratto (2017, p. 18).

The German government has an account at the Bundesbank and hence can only spend through this account. Where do these deposits come from? They ultimately come from the ECB since it is the monopoly issuer of currency. The private sector is not able produce reserves on its own. Even with securities lending, the German Finance Agency does not end up with reserves (or central bank deposits). What the private sector can do is to acquire reserves and then use them to (ex-post) “fund” government spending.²³ Either banks in the primary market use reserves to acquire bunds or tax payers give up deposits and through this, their banks give up reserves. This detour is functionally unnecessary but it should not distract from the fact that the state spends first.

The consolidation hypothesis states that logically Treasury and central bank form one unit and hence should be understood as such. This is very interesting in the context of the Eurozone since there is a supranational central bank – the European Central Bank (ECB) – and several national Treasuries. The ECB currently (summer 2019) accepts all national sovereign bonds as collateral except for those from Cyprus. There have been haircuts on bonds from Cyprus (when they were eligible), Greece, Italy and Portugal. In the following we consider a government of a Eurozone buying an aircraft. In table 1, we consolidate Treasury and ECB into the government sector. In table 2, we keep them separate.

²³ I follow the convention of the Circuit theory as in Cesaratto (2016, 2017) to put „fund“ in quotation marks in order to highlight that „funding“ is not „financing“.

We start with the commercial bank borrowing from the ECB against collateral (A). We assume that banks do not hold excess reserves at a level that is sufficient to buy all government bonds on the primary market. Since holding excess reserves carries additional costs this assumption should be realistic for a banking system where reserves are relatively scarce. The bank engaging in the primary market will borrow from its national central bank (NCB), which is doing the work for the ECB. The NCB, perhaps the Bundesbank, credits the account of the bank. The German Treasury sells t-bonds to the primary dealers, who transfer central bank deposits to the government's account at the Bundesbank (B). The German government can spend now and it does so, “transferring” its deposits to the account of the bank receiving the payment, which in turn credits the account of the receiver with new deposits (C). The commercial bank uses the reserves to repay its initial loan (D). Summing up, the government financed the aircraft through issuing t-bonds, which are held by the banks. The private sector holds deposits at the bank, which are its liability.

The alternative closure has the private sector using its deposits to buy up the t-bonds (E). In this case, the final position shows no entries for the banks. The private sector has (ex-post) “funded” the purchase of the government in the sense of holding the additional asset that financed the purchase (t-bond). It also made available the real resources (aircraft). The final financial position of the sectors is an exact copy of table 1 in Cesaratto (2016). The shell game – ECB lending to bank, bank lending to Treasury – should not be a distraction. It is the ECB as a monopoly issuer of currency that finances government spending in the Eurozone. Eurozone commercial banks are structurally indebted to the ECB, as noted by Lavoie (2014, 225). The ECB's balance sheet includes lending to euro area credit institutions related to monetary policy operations denominated in euro to the tune of €734,381 million in 2018.

| Table 1 | The consolidation view I. | | | | | |
|----------------------------------|-------------------------------------|---------------|-----------------|--------------|-------------------------------------|-------------|
| | Consolidated government sector | | Commerical bank | | Private sector (spending recipient) | |
| | Assets | Liabilities | Assets | Liabilities | Assets | Liabilities |
| <i>A Bank borrows reserves</i> | Loan +100 | Reserves +100 | Reserves +100 | Loan +100 | | |
| <i>B Sale of T-Bonds to bank</i> | CB deposits +100 | T-Bonds +100 | Reserves -100 | | | |
| | | | T-Bonds +100 | | | |
| <i>C Government spends</i> | CB deposits -100 (Aircraft +100) | | Reserves +100 | Deposit +100 | Deposit +100 (Aircraft -100) | |
| <i>D Bank repays loan</i> | Loan -100 | Reserves -100 | Reserves -100 | Loan -100 | | |
| <i>Net</i> | (Aircraft +100) | T-Bonds +100 | T-Bonds +100 | Deposit +100 | Deposit +100 | |
| <i>Alternative closure</i> | | | | | | |
| <i>E The PS buys T-Bonds</i> | | | T-Bonds -100 | Deposit -100 | T-Bonds +100 | |
| | | | | | Deposit -100 | |
| <i>Net</i> | (Aircraft +100) | T-Bonds +100 | | | T-Bonds +100 (Aircraft -100) | |

Source: compiled by author based on table 1 in Cesaratto (2016).

Table 2 The consolidation view II.

| | Government | | Central bank | | Commerical bank | | Private sector | |
|--------------------------------|-------------------------------------|--------------|--------------|---------------|-------------------------------|--------------|---------------------------------|-------------|
| | Assets | Liabilities | Assets | Liabilities | Assets | Liabilities | Assets | Liabilities |
| <i>A Bank borrows reserves</i> | | | Loan +100 | Reserves +100 | Reserves +100 | Loan +100 | | |
| <i>B T-Bonds sold to bank</i> | CB deposits +100 | T-Bonds +100 | | | Reserves -100 T-Bonds +100 | | | |
| <i>C Government spends</i> | CB deposits -100 (Aircraft +100) | | | | Reserves +100 | Deposit +100 | Deposit +100 (Aircraft -100) | |
| <i>D Bank repays loan</i> | | | Loan -100 | Reserves -100 | Reserves -100 | Loan -100 | | |
| <i>Net</i> | (Aircraft +100) | T-Bonds +100 | | | T-Bonds +100 | Deposit +100 | Deposit +100 | |
| <i>Alternative closure</i> | | | | | | | | |
| <i>E The PS buys T-Bonds</i> | | | | | T-Bonds -100 | Deposit -100 | T-Bonds +100 Deposit -100 | |
| <i>Net</i> | (Aircraft +100) | T-Bonds +100 | | | | | T-Bonds +100 (Aircraft -100) | |

Source: compiled by author based on table 1 in Cesaratto (2016).

We now turn to the case with ECB and Treasury being separate as shown in Table 2. After going through steps A to D, we arrive at the same net position as with consolidation. The government has acquired the aircraft by issuing a liability that is held by banks, which have credited the seller who gave up the aircraft. The alternative closure is also identical to what happens with consolidation. Also, we get an exact copy of table 2 in Cesaratto (2016) for the case of the US. It seems that functionally it makes no difference whether to consolidate or not, while logically it makes sense to describe the monetary circuit of central bank deposits as one in which the Treasury is both injecting money by government spending, indirectly financed via the banks, and by taking money out of circulation through taxes. With respect to funding I would argue that when Eurozone governments spend, their respective central banks mark up the accounts of the receiving banks. There is no “funding” possible. The central bank creates new money when it executes the government’s payments. It does not technically need any deposits in the account of the government. Just like with normal bank, deposits cannot be used to “fund” loans. If the government is forced to have money in its account for the central bank to make payments, this is a political constraint, not a technical one.

6. Conclusion

The German ministry of finance and the German central bank are connected through a number of institutional arrangements. They start with the fact that the Bundesbank runs the central account of the government. It continues with the provision of Bundesbank infrastructure for the primary market in German sovereign securities, which is at least partly influenced by Bundesbank rules regarding, for instance, the Bund issues auction group. This is very much like the primary dealer system in the US. During the conduct of the ECB's monetary policy operations through Bundesbank another connection can be established if the ECB is buying German sovereign securities via the Bundesbank, thus monetizing debt. It seems that this option is what makes bunds risk-less de facto, based not on legal texts but on the promise by ECB president Mario Draghi to do “whatever it takes”. The start of the asset purchase programs has helped to back up these words. German fiscal authorities themselves are not able to guarantee investors a risk-free asset, even though the Bundesbank (2007, 52) announced them as such. Institutions are helping the German finance agency to act as a market maker, but a fundamental problem remains that there is no de jure lender of last resort with respect to the federal government.

The way that government spending works in the Eurozone confirms the idea that “the state spends first”. All tax payments and all government bond sales require the private sector to hold reserves. The private sector is not able to create deposits at the ECB. It relies on two mechanisms. Banks can borrow from the ECB against collateral, with the ECB being in complete control over the list of collateral. Reserves thus created are non-permanent. Banks also receive reserves when Eurozone governments spend. Constant public deficits inject permanent – until public surpluses take effect – net reserves into the banking system. Since banks finance government spending only after they obtain sufficient deposits at the ECB, the setup is a bit like a shell game, in which it is somewhat hidden that ultimately the ECB provides the currency that is injected through government spending. Since the ECB does not “spend” first but “lends” first, one might more precisely say: “The state lends first”.

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