

Modern Money : The State Can Do It

An introduction to our monetary system according to Modern Monetary Theory

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1. Overview

MMT describes our monetary system at its current state

Where does money come from? Why is it usually scarce, but in crises suddenly available, almost indefinitely? From where do some governments in the era of the coronavirus disease take hundreds of billions of euros, pounds or dollars from? And why are some governments in the Eurozone unable to do this? Governments, central banks and banks: who actually creates the money, and who lends it to whom? Will our children really have to pay back these national debts at some point?

This article strives to outline the basic mechanisms underpinning our monetary system, information we need in order to answer the aforementioned questions. It does so by using the lens of Modern Monetary Theory (also known as Modern Money Theory or in short, “MMT”). At the moment, MMT is being heavily discussed for two reasons: it highlights the state monopoly on money, and it provides an alternative perspective on sovereign debt. Often the discussions and critique concentrate on normative questions about what fiscal and monetary policy should or should not do. This article instead starts from scratch, explaining our monetary system as it is, employing the descriptive elements of MMT. They offer a solid foundation as MMT is the only monetary theory that empirically studies the practice of banks, central banks and finance ministries and follows the money on its way through the balance sheets. In fact, the latest central bank publications of the European Central Bank, the Bundesbank and the Bank of England confirm the fundamental conclusions of MMT, while at the same time explicitly contradicting basic assumptions of previous mainstream monetary theory.

The descriptive part of MMT will help us to understand the different methods by which money is created, the hierarchy of government and banks, and the inseparable relationship between money and debt. To start with, the fundamental rules of our monetary system will now be briefly presented. In the long version of this article, you will find answers to questions that may arise upon reading, including information on the supranational currency of the euro, which is a more complex case, but is still a state money system to which the rules below apply.

Modern Money – The 5 Key Principles

1. Our money is not guaranteed and limited by any other value, such as gold or silver. Our 50 Euro notes do not say: "The central bank promises you 1 ounce of gold for this note, exchangeable at any bank branch". We only can use the 50 euros to buy whatever is offered at the price of 50 euros. Additionally, we can pay our taxes with it because the state that issues the money will accept it for all payments. This kind of government money is called ‘fiat money’. Since it is not tied to a scarce other material, theoretically it can be produced indefinitely.

2. The state has the monopoly on its own currency and determines its monetary value. The state gives itself the monopoly over money creation as a sovereign right. Only the state has the right to produce the state currency. This also means that the state first has to create its currency in order to spend it. Only then can its people have the money to trade between each other, as well as the money to pay taxes. Therefore, first the state has to spend, and then it can tax; not the other way around. In the current COVID-19 crisis we can see in real time that the state does not need to tax first to be able to spend. It can create the money that it needs for its political purpose. Parliaments and governments can decide on the necessary spending thanks to the state's monopoly on money creation. *(See long version for technical questions on bond issuing,*

the relationship between the government, central bank, and banking system, and the politically imposed limitations in the Eurozone – all of which do not change the listed key principles that stem from the state's money monopoly and accounting.)

But if the state can create money, then why does it need to tax its citizens? Taxation is necessary to avoid inflation, as there would be too much money and therefore demand in the economy if the state would create every year's budget without taxing money back. There are years when the state taxes all the money it has spent, producing a so-called 'balanced budget'. The state can also make a 'surplus', taxing more money from the people than it spends into the economy. But often – especially in times of economic crisis – the state decides to tax less and to leave a part of the spending in the accounts of the populace. On the balance sheet this part is registered as 'deficit spending' and over the years it accumulates to create what is called 'the national debt'. In a traditional understanding of money, the state debt is seen as a problem. However, in the MMT analyses, the state debt is not a normal debt, like a person's household debt, but instead represents the money created by the state that is registered as debt. It is the money that the state has spent and not taxed back – and which therefore still lies in the bank accounts of citizens, generating their savings. As long as that state deficits don't create inflation there is no problem with national debt.

3. The state creates its currency with the help of the central bank, either on the initiative of the government for the benefit of the citizens, or on the initiative of the central bank for the financial system. The state institution that technically produces the currency is the central bank. In a fiat money system, it can theoretically create unlimited amounts of money. Technically, it cannot go bankrupt. There are two methods by which states create money. The first we have seen above: government and parliament decide via the democratic process on expenditures that then are sent to households and businesses. Here the central bank collaborates according to the relevant national or supranational law.

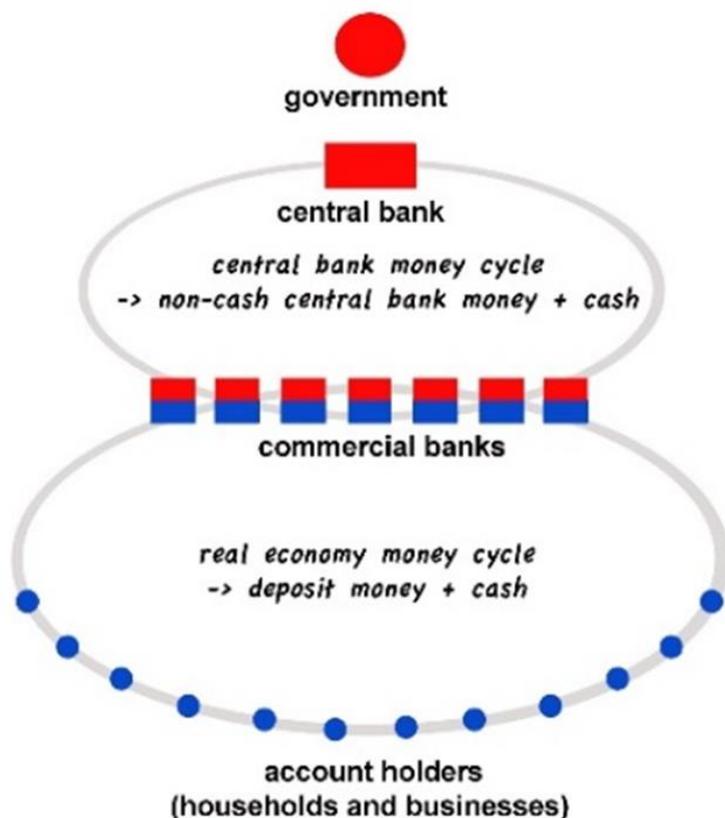
However, the central bank can also use its own initiative to create currency. As the central bank has much less democratic legitimation, this money is designed only for the functioning of the banking sector and in exertion of the central bank's monetary policy. This money will stay in the banking system and not spill over into private banking accounts. (See also point 4. and chart). In moments of economic crisis, we can observe how these two different types of state money creation tend to increase. The central bank itself creates large amounts of money to stabilize the banking system, and the government operates a deficit in favour of households and companies, thereby directly stimulating demand and the economy.

4. We live in a two-stage monetary system. It is not only the state, but also commercial banks that are permitted to create money. Although the state has a 'currency monopoly', it also allows private banks to create one kind of money. It is the deposit money in our checking and savings accounts that we use for transfers. This bank money is not the real currency, it is only second-order money. The deposit money is a promise to pay. The bank promises to us that they will cash out the deposit money at any time we want, or to transfer this promise on our behalf to a third party. We, ordinary members of society, trust this money because we can always receive state cash for it, and furthermore, because the state guarantees it through laws.

The money that the banks create is called 'bank money' or 'deposit money' (or sometimes also cheque money, bank deposits or more technically, 'giral money'). Only the private sector (which are households and companies) utilizes it for their money transfers. The state money on the other hand, is called 'currency', 'central bank money' or 'reserves'. It comes in a very material form as cash, but also in a virtual form, as numbers in central bank accounts. The state, banks

and central banks use only central bank money for their transfers between themselves. The non-cash central bank money can only be found in central bank accounts, and the bank money only in accounts of commercial banks. Therefore, the two types of money do not mix, but circulate in separate monetary circuits. Only cash flows in both cycles and guarantees the exchangeability for us citizens (see chart).

two-stage monetary system
with two separate money cycles



5. Money is always produced in balance sheets and always in the form of a loan, i.e. it is registered with an equally high debt. Generating money is simple: it is entered into the balance sheet of a central bank or a commercial bank together with a corresponding debt. The medium of our money is the balance sheet, so it is virtual by its very nature, regardless of whether the balance sheet is administered in a bank book or in a computer. Nevertheless, this way of creating money has very real implications, as the party to whom the money is credited is simultaneously obliged to repay it in the future, bound by all of the corresponding legal consequences of non-repayment. The bank must now pay out the newly created money in cash or transfer it to the client.

Technically, newly created money is accounted for as ‘the exchange of two receivables and two liabilities. If money is paid back to the money creator, i.e., the loan is paid off, all mutual liabilities and claims expire – and the money disappears again from the balance sheet. Money is thus created and expired in balance sheets, according to accounting regulations, within the

framework of contracts, under the applicable laws. And it produces legal consequences itself. It can therefore be stated that our money is a creature of the legal system. Furthermore, our accounting system implies a fact that is often ignored but unavoidable: there must always be as much debt as money. For one party to have money, another party must have debts.

If you extrapolate these inevitable accounting rules onto the macro level, you can study the distribution of money and debt on a state or global level. For every country you can define three so-called 'sectors', with every economic agent belonging to one of them: 1. The private sector (households and companies), 2. The government, 3. The so-called 'rest of the world' (all agents in all foreign countries). Each of the three sectors as a whole can either have more assets or more liabilities in total, thus, be net savers or net debtors. If for example, the private sector in Germany wants to have net savings, the German government and/or foreign countries must have debt of the same amount. If in Germany the government does not want to take on new debt, but the private sector wants to have higher net savings, the rest of the world has to raise their debt level. If one party wants new savings, another party has to have more debt, on an individual as well as on a sectoral and global level. This is not theory, but accounting.

2. Background information

15 questions for diving deeper into the topic

1. What is fiat money and why is it so stable?

Fiat money is not guaranteed and limited by any other value, such as gold or silver. Since it is not tied to a scarce other material, it can theoretically be produced indefinitely. We have had pure official fiat money since 1971, when the US abolished the last indirect remnant of the gold standard. Up to that point, the US central bank, the Federal Reserve or 'Fed', still promised one ounce of gold for every 35 dollars. But the guarantee only applied to foreign central banks that belonged to the Bretton Woods monetary system – and only until European central banks threatened to exchange all their dollars for gold. When that happened, the USA simply withdrew the gold cover for foreign dollars, instead of risking to lose their gold reserves. Even without the gold, the currencies retained their value. At that point it became obvious that it was not the gold standard that made the monetary system work.

According to the MMT-analysis, the worth of the currency is established and maintained by taxation. The state taxes its population and will only accept its own currency for payment. Thus, people will accept the currency also from each other, knowing that they themselves will find others who will accept the money for payment as everybody needs it to pay taxes. Furthermore, taxation makes sure that enough money returns to the state so that the state can spend new money every year without creating inflation over the time. If the risk of inflation were to emerge however, the state could simply raise taxes to take away money and therefore reduce demand from households and companies.

The big advantage of fiat money is that the state always has the money to fulfil its tasks. It can always pay people to work as teachers or judges and buy the necessary materials to construct schools and courts. The state can use its own currency to pay for all available goods and labour in its own jurisdiction – at best for the benefit of the general public. In a democracy, fiat money is created in the course of the democratic processes, when government and parliament decide on a Budget Act in order to implement political and social goals. The thereby enabled expenditures end up in the accounts of the beneficiary households and enterprises.

The term fiat money has its origins in the Latin word "fiat", which means "let it be done". Just as God says: "Let there be light" at the beginning of the Bible, the state says, "Let there be money". And there it will be. Even though unlimited fiat money may seem crazy and unsound at first glance, it effectively increases the state's stability and independence. Not only does the state always have the money required to fulfil its tasks. Furthermore, it does not make promises it cannot or does not want to keep in case of emergency, as was often the case in the times of the gold standard. The state guarantees nothing else than that it will always accept its currency for tax payments. And so it does. What's more, if the state issues government bonds, then it commits to returning them in its own currency when they mature. Since it can produce the currency limitlessly via its central bank, the refund is always possible. Thanks to fiat money, the state central bank can also provide unlimited guarantees for the banks. During a bank crisis, it is sufficient most of the time to lend the banks large amounts of non-cash central bank money. In a worst-case scenario, facing a large bank run, the state would simply have to keep printing bank notes until everybody calms down again.

According to our accounting system all money is always registered with an equal high debt, and this applies also to the state money creation. But this must not mislead us. Debt in a country's own currency is not like normal debt. It is the debt of the money monopolist, and it can always be repaid. It is the registration of the state money production, as in our accounting system all money is always registered with an equally high debt. And there is a counterpart to the debt of the government in the form of assets: thanks to government debt, other (sub)sectors such as households can have net savings.

2. What are the advantages of a fiat currency and what are the limits?

Of course, fiat money cannot work wonders. It does not mean that a state, being able to produce infinite money, can afford and realize everything. A state can only employ its own currency to buy and utilize the resources that its country effectively owns. For example, if there is insufficient national construction industry and a lack of trained local teachers, the state will soon exceed its capacity when it comes to building schools. This means that the resources positively available within the country are the limit, not the national currency. If the state produces more money than there are resources available, it will create inflation. On the other hand, if there are still resources available, including labour, the state could still create the fiat money to deploy these for the public good.

When it comes to buying products from foreign countries, things become more complicated, as a state can only guarantee the internal value of its fiat currency through taxation. The external value of a currency, in contrast, depends on different factors, the most important of which is export. A country with sufficient exports can use the earned currency to buy products that it cannot produce itself. On the contrary a poor country with little exports will find itself in difficulty when needing to import. It cannot earn the foreign currency through export and its own national currency will have a low exchange rate and little international buying power. Therefore, it might feel constrained to borrow currencies such as Dollars or Euros from foreign lenders to import necessary products. In this case the state will have external debt in a foreign currency. And now what is said in this article about fiat currencies and sovereign debt no longer applies. A state with debt in foreign currency becomes an ordinary debtor that is dependent on its creditors, for now it owes a currency that its central bank cannot generate. It is therefore crucial to always distinguish between debt in a country's own currency and debt in foreign currency, as these are fundamentally different types of debt. When analysing the debt crisis of the last decades, you will almost always find debt in foreign currency being involved. Or as in the case of Greece, the key factor was the new construction of the Eurozone, a currency area that had not yet decided how to treat its own member-countries; as foreign countries or as a part of a common currency area for whom the central bank will use their unlimited privilege to generate fiat money.

Fiat money will not resolve existing global disequilibrium, power structures and the dependencies of poorer countries. To resolve global injustice in the long run, a different international trade order is necessary; one that allows the global south to protect and develop its own economies and that discourages export surpluses, recognising this as the other corresponding explanation of the global debt-crisis. Because when it comes to accounting on a macro-level, inevitably and by definition, one country's surpluses are another country's deficits, one raising net-savings and the other raising net-debt. MMT analysis can help to understand this, as well as the dangerous nature of debt in foreign currency. And it can highlight the chance for all states to strengthen the cycle of fiat money, government spending and taxation to harness

most effectively the resources that a country effectively owns, including unemployed labour.

To keep the pattern simple, in the following passage we will leave out the third sector of foreign countries, and instead we will concentrate on the relationship between government and the private sector. We will begin by exploring the case of a national currency, which will lay the foundation for understanding the more complex, supranational currency that is the Euro. But first of all, we will deepen our understanding of what it means to live in a two-stage monetary system.

→ *On the topic of strategies against global injustice, see also the article "Sovereign Debt, Europe and the Global South" on this website.*

3. Why do we have two kinds of money and why are private banks allowed to make money?

One can say that bank money creation is an historical remnant. Since the Renaissance, private banking has existed in Europe. In Venice, the technique of book-keeping was invented and does not fundamentally differ from today's methods. Northern Italian bankers developed bank accounts, book money and remittances. London banks later added credit money creation and paper money. Finally, the states reacted and began to take control. The state claimed the monopoly on issuing paper money, organised the foundation of a central bank, the central bank began to create its own central bank money, then the banks were put under the control of the central bank, and in a final step the central banks officially switched from partial gold backing to pure fiat money, that they can create infinitely. The only thing that the states never touched at its core is the banks' right to create deposit money.

A two-stage monetary system was therefore created with two types of money and the following division of labour. Firstly, the state central bank produces the actual currency, the central bank money. It is used in four ways: by the government for its spending, between the banks as a means of accounting, by the central bank itself to hedge the banking system, and finally as cash which is used by the people.

The banks, on the other hand, may derive a second-order form of money from it by creating deposit money for the private sector. This is due to practical reasons; commercial banks have always been keeping the accounts for households and companies, they had branches all over the country and when granting loans, they benefited from their long familiarity with the local economy and profit prospects. At the same time, the bank-users are protected, because the bank money is subordinated to the central bank via cash and other mechanisms and regulations. Also, the interest rate is controlled by the central bank via the key interest rate. This division of labour between the state and private banks seems justifiable – as long as banks do nothing more than keep accounts and hand out loans to the private sector, as was the case in the first decades after the Second World-War.

Since the 1980s, however, a phase of financial deregulation has been taking place. Since then, banks have used their money-creation privilege and privileged access to central bank money for highly speculative and risky business models in order to generate high profits. Such business models led to the global financial crisis of 2008, from which, in particular, many European countries still have not recovered. You can find many descriptions of the damage and risks that

the global financial system brings to the general public, with institutions such as certain banks, hedge funds, and shadow banks, methods such as exorbitant derivatives trading, high frequency trading, and even business models such as cum-ex or cum-cum, all of which explicitly exploit state funds.

However, proposals for sensible countermeasures do exist. Therefore, regarding the banking system, this piece emphasizes that re-regulation is not only necessary, but also possible. This is because although the financial sector has grown and differentiated over the past decades, the systemic hierarchy between the state and the banks has not changed; the state still has the currency monopoly. Therefore, in purely technical terms, banks always need central bank money from the state for their business models. By contrast, the state does not need the banks' bank deposits. In fact, for the state, a private banking system is not indispensable. As money is a public good, it should be self-evident that the state at least ensures with sufficient control and regulation that the banks do not use their derived money creation privilege to harm the greater public good. All the more since in any major crisis it is the government that has to save banks by assuming their debts and the economy with new deficit spending, inevitably, as the state must guarantee a functioning financial and economic system.

4. How does deposit money emerge through lending? And how does it disappear again?

Banks create their bank deposits primarily by granting loans. Let us have a look how this works, with the help of simplified T-accounts. Basically, the following applies: on the left, all asset items of a party are entered, which in the case of a checking account is the deposit money. On the right side, the liabilities are entered, that is the debts. In our example below, we assume that Marta takes out a loan for a racing bike. First, Marta's T-account is empty – she has neither money nor debts. Once Marta's loan is granted, the bank will credit money to her account (on the assets side) and just by registering it, the money comes into existence. However simultaneously, a debt of the same amount is registered in Marta's account (on the liabilities side). This represents money that Marta has to pay back in the future.

+	Marta	-

T-account: Marta before loan granted

+	Marta	-
	deposit money 1000	debt to bank 1000

T-account: Marta after loan granted

Marta now has freshly created money in her account which she can transfer to the bicycle dealer. This creates demand and revenue for the bicycle dealer, who will probably also pass the money on. Consequently, the money does not disappear, it simply continues circulating. At the end of the year statisticians will count it as additional savings in somebody else's private checking account. Thus, Marta's loan facilitated demand, revenue and money savings for other people in the economy. Marta herself now owns a bicycle, but as far as her account is concerned, the money is gone and only the debts remain. Her net assets are now -1000 euro.

However, a few months later, Marta has an income of 1000 euro. Now again her account looks

like in figure 2. When she uses the 1000 euros to pay back her loan, both entries disappear from her account, just as they appeared together initially: The 1000 euro she gained vanishes from the credit side because she uses the money to pay back the debt to the bank, and of course, the debt of 1000 euros is also cleared from her liabilities because it has now been paid off. And we are right back to the situation shown in figure 1.: here is again 1000 euro less in the world, but also 1000 euro less debt.

5. Is the bank rich because it can create an unlimited amount of deposit money?

From the bank's point of view, the ability to create deposit money is not as impressive as it seems to private individuals. When we have a look at the bank's simplified T-Account, we soon see why. First, we see that both parties each get two entries, which mirror each other, as the asset of one is the liability of the other.

Bank	
+	-
receivables from loan 1000	deposit money 1000

T-account: Bank after loan granted

Marta	
+	-
deposit money 1000	debt to bank 1000

T-account: Marta after loan granted

When we now concentrate on the bank's T-account, we see, that on the asset side, the bank has received a claim for repayment against Marta. But the deposit money that it created for Marta is a debt on the bank. This is because by registering this new money in Marta's account, the bank promises to pay it out to her in cash or to transfer it to another bank for her. In both cases, the bank needs central bank money, which it cannot produce itself. The bank must borrow it from the central bank against the key interest rate. For the bank, deposit money is therefore a debt to its customers and represents a real cost. For the bank, creating deposit money results in two equally high items on the right and left side of the balance sheet. This is called a 'balance sheet extension' and it leaves the equity, i.e. the own capital of the bank, unaffected. So how does the bank benefit from creating money? It is the interest that is earned on a loan that makes all the difference for the bank and its equity. We have omitted that piece in our example in order to keep the entries as simple as possible and to focus on the money creation process.

When Marta finally repays her loan, the bank's balance sheet shortens again, as in the bank's T-account both entries expire, as they did in Marta's. This is because the claim for repayment on the assets side is now settled. And as Marta used her income to repay her debt, the bank no longer has the liability to cash out or retransfer the money for her. Thus, the bank does not "get" the deposit money from Marta, instead it loses a debt – as well as a claim.

And here is what we want to keep in mind at this point: in a credit-based money system, the money is entered as a debt in the balance sheet of the money creator (the bank). And if money is paid back to the money creator, then their debt disappears again – and with it the money.

6. If there are two separate monetary cycles – how does government spending make its way into the real economy?

In a two-stage monetary system the following problem arises: the government uses only central bank money for government spending. But government spending is to be sent to households and companies which do not have an account with the central bank and therefore cannot receive *central bank money*. They only have accounts at commercial banks, i.e. they can only receive *deposit money*. So how does government spending reach private banking accounts in a two-stage monetary system? It is the bank's task to solve this problem by translating the central bank money, so to speak, into deposit money. When the government wants to transfer her pension to Ms. Sophie, it sends central bank money to the central bank account of Ms. Sophie's bank. The bank then keeps the central bank money itself on the asset side of its balance sheet, and in return creates the same amount of deposit money by crediting it to Ms. Sophie's account (which again means a balance sheet extension for the bank, that does not change the equity). However, this necessity to translate one kind of money into the other leads to a double money creation: First, the central bank money supply increases in the course of government spending, and then the amount of deposit money increases as a result of the translation. When people pay taxes, the same thing takes place in reverse. The bank erases the money from the person's bank account and instead transfers the corresponding amount of central bank money to the state. In this case the bank's balance sheet is shortened and both types of money expire when being paid back to the issuer.

With this translation in the middle, government spending and taxes overcome the boundaries of the two separate money cycles. In contrast, the deposit money created by banks remains in the deposit money cycle and central bank money created by the central bank for the financial system remains in the central bank money cycle (see chart). This money cycle issue seems quite technical, but it lets us understand why the different ways of money creation have such different effects. Additionally, it is also very important for the understanding of government bonds, as we will see below.

7. What part do government bonds play in deficit spending?

Government bonds are promissory notes issued by the state. The state turns its debts into securities and sells them to banks and private individuals. Why does it do so? In the orthodox understanding of money, it does so to acquire the money it needs for government spending. From the MMT point of view this is a misapprehension due to a lack of technical understanding of our two staged monetary system. If the state is the one with the currency monopoly and an inexhaustible central bank, then why would it need to get money from private agents that do not have this currency creation privilege? And on top of that, from where would banks and investors have the money to finance the state? Especially considering the fact that one cannot buy government bonds with the banks' deposit money. Government bonds are exclusively available with the state currency, which is the central bank money, that nobody but the central bank can create.

Government bonds lead us on the wrong track. In fact, government bonds do not have the purpose of raising money for the state, as the state is the one with the money monopoly. Government bonds have technical functions in the financial and economic system. Most importantly, the central bank needs bonds to regulate the amount of money in the central bank money cycle. We have seen above (in question 6) that in a two-stage monetary system, government spending must be translated by the banks into deposit money, resulting in double money creation. In the case of government deficit spending however, this money is not expiring through an equal amount of tax paying. Deficit spending therefore results in a permanent rise of money in both money cycles; but only the rise of deposit money in the accounts of households and companies is intended. On the contrary, the increase of central bank money in the banking system is an undesirable side-effect that interferes with the central bank's ability to set its targeted positive key interest rate. If banks could keep the central bank money they receive in the course of their 'money translation service', they would cease to depend on constant short term credits from the central bank at the current key interest rate. To avoid this result, deficit spending is accompanied by the issuance of government bonds. Sold to the banks they function as a "money sponge", absorbing the excess central bank money created in the banking system throughout the translation process. Thanks to this detraction of liquidity the banks are forced to continue to regularly ask the central bank for loans at the current key interest rate.

The key interest rate has long been the primary instrument for pursuing the monetary policy of central banks. In a zero-interest rate phase, like the current one in the era of COVID-19, government bonds would be dispensable for the central bank. However, many stakeholders are still hoping for a return of positive interest rates in the future and the comeback of a "normal" monetary policy. Even more so as it is hard to imagine the financial system without government bonds. They are the safest possible form of investment and an indispensable part of the business model of institutional investors such as banks and insurance companies.

Private savers also appreciate bonds as they represent a safe investment; and this is where another aspect of the story comes into play. In economically prosperous times, government bonds which are sold to private individuals help to prevent inflation by reducing demand. Private individuals will buy them with their deposit money from the government, again with the 'translation' of the banks in the middle of this transaction. In this case, the bonds absorb the extra central bank money as well as a part of the deposit money created by the deficit spending. The ordinary people exchange their liquid deposit money for a permanent asset, thereby postponing their consumption for a predictable time, keeping the demand in the real economy stable, counteracting the risk of inflation.

8. What does the government's money creation look like in the simplest case? For example, in Canada?

In Canada, the Ministry of Finance and the Central Bank can organize the state's money creation directly among themselves. Let's look at how this works in a somewhat simplified form, as a vivid two-person play. Imagine the Canadian Finance Minister needs 50 billion Canadian dollars for government policy. In this case she can directly communicate with the Bank of Canada. She issues government bonds worth 50 billion dollars and hands them over to the central bank. She then receives a credit of 50 billion brand new Canadian dollars in central bank money into the government account in return. In the form of simplified T-accounts, this money creation process

would look like this:

+ central bank -	+ government -
government bonds 50 Billion	central bank money 50 Billion
central bank money 50 Billion	government bonds 50 Billion

T-accounts after money creation through sale of government bonds to central bank

These T-accounts look very similar to the ones in the example of Marta’s bank loan for a racing-bike. Again, new money is created as the creator and the recipient exchange assets and liabilities in a mirror-image manner. In this example, the central bank creates 50 billion Canadian dollars by registering them on the assets side of the government's central bank account. To balance this, on the government’s liabilities side a debt is registered, which is represented by the bonds. The government commits to return 50 billion Canadian dollars at the end of the government bond’s term.

In the central bank's T-account, the same items are entered the exact other way round: the government’s debt in form of the bonds are registered on the assets side, as for the central bank they represent a claim to demand money from the government at the end of the term. But the central bank now also has a debt. It has assured to provide the government with 50 billion Canadian dollars and pay it out in cash if necessary or, more likely, transfer it on behalf of the government. Again, the money created is a debt to the money creator. And again, both parties have exchanged liabilities and in doing so are turning the debt of one into the asset of the other.

The figures show the initial balance sheet extension for both parties: plus 50 billion on the left, minus 50 billion on the right. The net assets stay exactly the same before and after the bookings. For the central bank, the balance sheet extension remains in place until the government bond has been paid back (or the central bank sells the government bond off to the banking sector). Then the balance sheet is shortened again. In the case of the government, the balance sheet extension is only a snapshot since the new money on the assets side will soon be transferred to the recipients of the government spending. The money, translated by the banks, will become income and savings in the accounts of citizens and companies and circulate in the real economy.

On the government balance sheet remains the new debt of 50 billion Canadian dollars that the government now owes to its own central bank – or to the banks to which the government bonds were resold in the meantime. For it is likely that the Canadian central bank will resell the government bonds so that they can perform their function as a “money sponge” within the banking system.

9. From Canada to the Eurozone – is government money creation really that easy?

Countries have a certain amount of freedom in organizing their currency monopoly and their fiat money system, without affecting the underlying basic principles. In particular, the

relationship between the ministry of finance, the central bank and commercial banks can differ, as can the order in which money and bonds are exchanged between them. Often, unlike in Canada, governments are not allowed to sell their government bonds to the central bank. Instead, they must sell them directly to *commercial banks*. This has the advantage that right from the beginning, the bonds are placed in the financial sector to fulfil their function as a “money sponge”. In fact, this change of the order does not make as big a difference as might seem on the face of it. In the US for example, firstly deficit spending occurs, executed by the central bank which thereby creates the money. Then, in an independent move, the government sells bonds to the banks amounting to the amount of the deficit spending. In other countries however, first the central bank makes the necessary money, which it creates by giving loans to banks. With this new money, the *commercial banks* buy the bonds from the government.

What always stays the same is this; it is the central bank that makes the new money to pay for the deficit spending and to buy the newly issued bonds – nobody else could do that. And it is always the state institutions that control this process. When governments are legally obliged to only sell their bonds to the financial system, this does not give banks power over governments, as one might think. In countries with a national currency, the central bank can control the behaviour of the banks very precisely. In fact, the central bank has not only one key interest rate, but a set, and by manipulating these it can make sure that the banks play their designated role in the process and absorb the bonds at the interest rate the central bank dictates. Thus, the central bank does not need the right to buy bonds directly from the government to guarantee the government’s solvency. It can also pull the necessary strings in the background to make sure that the money will arrive with the government via the banks, indirectly creating a “money sponge”.

However solely in the Eurozone, things are much more complicated. Nineteen countries of the European Union share one fiat currency and one central bank, the European Central Bank (ECB). It is an experiment without a model and therefore the treaties establishing the rules for the euro and the ECB are a compromise. They reflect the mutual mistrust that other states might over-use the money-creation privilege of the central bank in their own favour and end up creating inflation for all.

To make the euro possible, the Eurozone members committed themselves to a number of obstacles that make deficit spending by national governments more difficult or prevent it altogether. Debt ceilings were set, especially severe ones for states with high historical debt. Additionally, an artificial market has been implemented in the state money creation process. Governments must sell their bonds to the banks – which in itself would not be a problem, as we have seen above, as the central bank makes the necessary money and gives it to banks anyway to buy the bonds. But the unique problem in the Eurozone is that banks take the money, and without any exchange rate risk, they can choose between 19 different national government bonds. This exceptional situation allows banks to drive up the interest costs of individual states – a scenario which would not be possible in the usual case of "one currency equals one government bond". Subsequently, Eurozone countries with high debt levels, suffer not only from the debt ceilings, but also the risk of paying interest rates to commercial banks to levels that are no longer sustainable, as the interests make the debt rise as by itself.

These inherent problems with the common currency area have manifested since the euro crisis in 2010 which followed the financial crisis. The starting signal was that Greece, as a part of the Eurozone, was not saved by the ECB but was declared ‘defaulted’, like a state of the global south, indebted in foreign currency. With this unexpected possibility of a national bankruptcy and default appearing, the confidence in the reliability of the euro-project was shaken. The banking

sector started to speculate against states with high debt levels, and the ECB allowed the spread in interest rates of bonds to proliferate. Only in 2012 did the ECB finally start to intervene, after debt levels in some Eurozone-states had further risen as a result of uncontrolled interest rates. In the economic crisis, the rules of the Eurozone translated in practice to an austerity program that inhibited investment and recovery in great parts of the Eurozone.

The strange situation of a market created specifically for bonds combined with the hesitation of the ECB to exert control over ensuing interest rates consolidated the misunderstanding that Eurozone states are financed by banks. To reiterate: The Eurozone still remains a fiat money system, with the euro being the common state currency, whereas the deposit money of the banks is only second order money that can buy no bonds, let alone finance states. The lack of money and investment stems from the self-imposed restrictions the euro-states signed up to in the Maastricht-treaty. These rules can be only changed unanimously, and this is what makes changing them extremely difficult. As a result, some politicians and parties in disfavoured countries advocate for leaving the Eurozone, opting for the uncertainty of the process rather than remaining constrained by the rules.

10. How does the vulnerable Eurozone manage the COVID-19 crisis?

The COVID-19 crisis has created new momentum for changes within the Eurozone, but the longer-term outlook is still unclear. The fundamental rules underpinning the Eurozone have not been changed. But there has been improvisation as well as innovation in order to react to the COVID-19 induced need for higher investment and therefore higher debt levels. Some Eurozone rules, such as the debt ceilings, have been temporarily suspended. The ECB backs the deficit spending of the states. With its Pandemic Emergency Purchase Program (PEPP), the ECB has stabilized the interest rates of government bonds by guaranteeing to buy the country's bonds from the banking sector. This is a clear break with the policy towards Greece, Italy and others in the euro crisis after 2010. This time there is no risk of default of single states and the spread in interest rates has not proliferated any further.

Still, there is a spread that disadvantages the already more vulnerable euro-states in fighting the crisis. And as long as interest rates are higher than growth rates, public debt will grow – in relation to GDP as well as in absolute numbers. This is an issue because many states have the substantiated fear that after the acute COVID-19 crisis the Eurozone will go back to punishing high debt levels. So, the already heavily indebted Euro-states do not dare to spend as much as the economic crisis would demand. States such as Germany on the other hand have decided upon releasing huge fiscal stimulus packages in order to save their economy. Under these conditions, however, even greater economic inequality in the Eurozone is the logical consequence.

The most effective change that would make the vulnerable Eurozone as resilient as any other country with its own fiat currency would have been the introduction of a sole bond, called a Eurobond or a “corona bond”. All the specific Eurozone problems would have been solved once and for all: the loss of trust caused in the euro-project since 2010 when Greece was sent to default, the resulting spread of unsustainable interest rates, a financial system that since then has speculated against certain states, and the necessity of the ECB to stretch its mandate to defend the euro under the conditions named. But politically it has been impossible to implement common debt in the form of common bonds – because of diverging interests in the short term,

but also because this fundamental change probably would need more democratic legitimization, potentially including changes in the European contracts, institutional changes, and referendums.

Thus, instead of resolving the problems on the Eurozone level where they stem from, the European Commission took over and came up with an idea. For the first time ever, the European Union itself would take on a considerable amount of debt. This is how it works. Firstly, the Commission releases bonds that banks and investors can buy with money created by the ECB. Then, the Commission will give this money to the EU governments, partly as non-repayable aid, and partly on favourable credit terms. The states can invest and try to save or restart their languishing economies. In doing so, from a monetary point of view, the European Commission acts as a federal government that creates currency for its states as some of them are no longer able to do so sufficiently for themselves under the euro-regime. This solution also results in common debt, which the Eurobonds would also cause, but the advantage is that the European Union with its institutions of Council, Parliament and Commission, has more democratic legitimization and can move faster. The disadvantage is that the agreed amount of money is not big enough for the dimension of the crisis and the intervention is meant to be unique. No changes to the architecture of the Eurozone have been made, so the member states still have to find a long-term perspective.

The institutional problem of the Eurozone is that democratic legitimization, spending and possibly negative results of inflation no longer conform – as would be the case with a national currency. In the Eurozone, national parliaments and governments are still the most legitimate democratic agents and therefore the ones who should decide on spending and money creation. But in case of serious overspending in some of the states, inflation could then also occur in more parsimonious states that did not profit from spending and also cannot vote against the negative consequences of another state's profligacy. The Eurozone on the other hand, has no governmental institution with democratic legitimization that could decide on direct spending in favour of households and companies. The unproductive solution in the European contracts consisted of restricting spending altogether – which also constitutes an infringement of democratic policy space. The latest provisional answer to this dilemma is the European Commission taking on debt. It remains to be seen how the institutions will further adapt. From an economic point of view it is easy; on the national or on a supranational level, some governmental institution has to be allowed to take on the debt, create enough money, and spend it into the real economy, to overcome crisis and at best, make our continent 'future fit'.

→ *On the topic of future and sustainability, see the article "Climate and Economy" on this website.*

11. Why are government debts not comparable to other debts?

All types of money creation are accounted for in the same way, with mirrored claims and liabilities for both parties. And all debts look the same on the balance sheets, whether the government owes money to the central bank or Marta owes money to her bank. Yet, in reality, not all debt are the same. The debt of the Canadian government and the debt of an individual like Marta have very different implications. If we as private individuals have debts and cannot pay them back, we face serious legal problems. We are threatened with lawsuits, bailiffs, foreclosures, legal enforcement. We owe money that we cannot create and therefore we have to find a way to procure it when it is due. Even the commercial banks, which can create deposit money, are only users of the actual currency and dependent on the credits of the central bank. They go bankrupt when their equity goes into the red. Then it is up to state institutions whether

to close, rescue or nationalise them.

Government debt, however, is of a different nature. Because the state has a monopoly on currency, it has the right to produce the kind of money it owes. The state's own central bank, unlike a normal commercial bank, cannot go bankrupt. And if the government owes money to the central bank, then the state ultimately represents both roles. You can see this difference very well in our Canadian example. When the term of the government bonds matures and the Finance Minister has to pay back the money – will she be in trouble? No! Because unlike normal debtors, the Finance Minister does not have to desperately find a source of money to settle government debts. She can simply issue a new bond and make the central bank create new money to pay off the old debt. Thus, old debt is just replaced by new. The amount of debt and bonds stay the same, only the due date is postponed. No trembling, no uncertainty for the Finance Minister – the Canadian central bank is legally obliged to cooperate (and even the interest that the Finance Minister pays to the Bank of Canada returns to the government budget at the end of the year). Therefore, although the government's money creation is properly recorded in the balance sheets of both parties with debts and claims, it is basically a business of the state with itself. Because of its currency monopoly, it is both creditor and debtor at the same time; it creates the money.

This story does not change much if the central bank has sold the bonds to banks and private investors or even foreign investors in the meantime. When the bonds are due, the Finance Minister will do the same: she will replace old debt with new by selling new bonds to pay off the holders of the expiring ones, whoever they are. The Canadian Finance Minister can sell the new bonds again to the central bank – or directly to the banks as in most countries. If she sells to the banks, she can count on the central bank to create and lend the necessary money to the banks, manipulating them with the key interest rates to buy the newly issued bonds. This ensures that the state can always place new bonds. Thus, there is no risk that the government cannot pay back a due bond, independently from who is holding it. The only difference with the private sector holding the government bonds is the interest and whether there is a positive interest rate. The Finance Minister then will have to pay interest to banks and private investors and will not get the money back at the end of the year (as it does if the central bank itself holds the bonds). But also, in times where the central bank has to set high interest rates to control inflation, if the interest creates too big a cost for the state budget or is having undesired effects with regards to distribution – the government could always tax the beneficiaries of high interests and thus provide compensation.

12. Do public debts need to be repaid? Should they be repaid?

Of course, the individual government bond must always be returned when it matures. But as we have just seen, if the bond is denominated in a country's own currency this is no issue for a state with its own central bank. In contrast, the government debt as a whole does not have to be repaid but can simply remain on the balance sheets and be pushed further into the future. This is because there is no original creditor waiting for the money to be paid back. The origin of the money is the balance sheet of the national central bank, where the money came into existence by being registered. And the central bank is not like a normal creditor who urgently needs their money back. On the contrary, the central bank can produce new money indefinitely. It creates money by a simple balance sheet extension – and no harm is done to anyone. As long as the government does not overdo it with money creation and does not provoke inflation, public debt

is not a problem and can simply remain peacefully on its balance sheet. It can even continue to grow moderately – as long as there is no sign of inflation.

To allow the national debt to peacefully exist is also in the self-interest of households and companies. For in fact, public debt on the balance sheet is only the flip side of private savings. National debt rises when the state makes expenditures and does not tax them back in the same amount. The money corresponding to the public debt is therefore still out there on private checking accounts, constituting the savings of the private sector. If the state now wanted to reduce the public debt in absolute numbers, it would need to tax these private deposits. The state would have to have budget surpluses for a long time, meaning that the government would always tax more than it spends, thus reducing private savings year on year. Only then parts of the national debt would disappear from the balance sheet it originated from. Is it worth it, though? Disregarding the individual inconvenience, there is a high probability that the economy as a whole would react badly to this strategy. Households and companies will respond to the pressure of a high tax burden and little government investment by feeling pessimistic and by saving more. Very soon not only would the state try to save money and reduce investments, but the private sector would too. Demand would decrease and therefore production and employment would suffer. When a recession sets in, the experiment of public debt repayment would probably come to an end, and the government would decide on new deficit spending to support the economy, beginning the cycle all over again.

Actually, government debt has generally *not* been repaid. Only the so-called ‘government debt ratio’ has regularly fallen. The government debt ratio is a way to represent government debt relatively, as a percentage of gross domestic product (GDP). This means that it is enough for GDP to rise for the public debt ratio to fall. By contrast, government debt in absolute terms almost never decreases. Contrary to all the good intentions expressed, it is not being repaid, as in practice any serious attempt would soon lead to recession. After all, returning the national debt equates to reducing the amount of the existing money. And as a final consequence, the repayment of all public debt would mean taking all the money from the accounts of private individuals and banks and making it disappear from the large public balance sheet from which it originally came. All debts would be gone and with them all savings, and all money.

13. When does inflation rise? And why is deflation a problem?

Inflation means that money loses value, or in other words, that goods and services become always more expensive. One typical situation that leads to inflation is when demand rises more than the quantity of goods and services available. The money supply is only one of several factors involved. It also depends on how much money people save. As long as the money supply increases, while people simply hoard the additional money in their accounts and do not spend it, nothing happens. Just as important is whether the production of goods and services increases or decreases. If the production of real values increases in tandem with the money supply, the value of money remains stable.

Leaving external shocks aside for the moment, inflation occurs in boom times, when production reaches its limits because all factories are working at full capacity and full employment prevails. Then wages rise, which drives prices up. In such cases, the central bank tries to slow down the banks' money creation by means of its key interest rate. A high interest rate aims to discourage companies and private individuals from taking out more and more loans in the boom situation.

In fact, it is the banks' own money creation that increases automatically in good times and therefore tends to have an inflationary effect.

The state basically has two ways of reacting to inflation and reducing demand: first, the central bank can raise interest rates sufficiently to reduce the demand for credit and, thus, the commercial banks' production of giral money. In an overheating economy, where considerable credit is demanded and invested, raising the key interest rate can cool things down. But the central bank must proceed cautiously so as not to trigger a recession by stepping on the brakes too hard. Modern Monetary Theory points out that excessive demand can be reduced more sensibly by raising taxes than by raising interest rates. But even here, the government must consider the risk of a collapse in demand.

The dangers of a recession must not be underestimated by any means. For when unemployment rises, demand soon collapses. Since there is less demand, less is produced and even more people are fired. The problems of too little demand and unemployment are mutually reinforcing. This case is usually accompanied by deflation. Prices are lowered to find consumers willing to purchase and falling prices make production even less profitable. Deflation, once it starts seriously, leads to a downward spiral against which the central bank's key interest rate will be powerless. For where demand and profits no longer exist, even a loan at zero interest is too great a risk for a company. In such a situation, households, companies, and banks save and thus exacerbate the situation. Now it is only the government that can save demand and the labour market. Since the state does not have to make a profit, it does not have to pay back its debts and is therefore the only one that can act anti-cyclically and swim against the tide.

But now we are experiencing inflation that is not driven by rising investment and rising wages, but by external shocks. The Corona crisis and Ukraine war have affected global production and supply chains, so that fewer goods and services are available. During the Corona crisis, states have expanded their money creation to cushion the recession and avoid unemployment. Now, the states need and create additional money for the Ukraine crisis. Global demand has thus potentially increased. In addition, the Ukraine war is pushing up one of the most important prices - that of energy. Some increase in inflation seems inevitable in this situation. This is because external circumstances prevent production from adjusting to demand by expanding. The current inflation situation is based on global events and price developments that Western central banks cannot change. There is therefore a high risk - especially in the fragile Eurozone - of triggering a recession by raising key interest rates without solving the inflation problem. In the end, the government could be forced to create and distribute even more money to avoid social hardship.

It is important to realise that in certain situations moderate inflation can be the lesser evil compared to a severe recession. For while inflation mainly threatens savings, recession threatens labour income, which is the more crucial factor for most people. While the purchasing power of labour income is also reduced by inflation, there is the possibility of targeted support for those who can no longer afford the cost of living due to rising prices.

Fundamentally, the current inflation is about too much demand for resources that have become scarcer due to international developments. To fight inflation and ensure a fair distribution of what is available, a political cap on consumption is also conceivable, for example by limiting the consumption of fossil energy or relieving the rising grain prices by limiting meat consumption, which of course requires democratic majorities.

→ *On the topic of economic crises see also the article "Economic strategies to manage the crisis: Austerity"*

or government investment programmes?" on this website.

14. What is the neoclassical take on this topic? And why does credit money make such a big difference?

Economic textbooks usually still hold money models based on neoclassical theory. Banks are still described as "financial intermediaries" and the formula of the "money creation multiplier" is still taught - even though central banks now explicitly contradict both concepts and state that they are inconsistent with the practice in the banking system and the accounting rules.

The notion of "banks as financial intermediaries" assumes that banks lend customers' savings to borrowers. Banks would therefore only channel the money to where it is needed. In this way, money becomes a commodity like any other, which is offered and demanded, and it is from this market process that it derives its price (the interest). This premise allows neoclassical theory to regard money as 'neutral', as not causing any effects out of itself, and most of all, having no influence on consumption and unemployment whatsoever. At the same time, this theory stresses the importance of saving. Somebody needs to put money aside first, so that somebody else can invest. This concept of money can be used to justify, for example, austerity policies and the idea that saving could be a 'cure' in a financial crisis.

The money creation multiplier, in turn, is a formula designed to calculate how much banks can reproduce money by further lending savings. According to the formula, the ability to multiply savings is determined and limited by the supply of central bank money. This would mean that the supply of deposit money could be controlled by the central bank and would not depend on real economic demand. In fact, however, the central banks cannot control or even regulate the money supply via their central bank money. On the contrary, increased creation of deposit money by the banks and the implied higher demand for central bank money lets central bank money supply rise (see Bundesbank 2017). Whilst the banks are indeed dependent on the central bank, because they always need its central bank money, the central bank cannot refuse the required central bank money for a bank loan, that has been properly granted. It can only externally define the key interest rate (which therefore is not a market price for money) and thus try to indirectly slow down the growth of deposit money creation.

These questions initially seem abstract and technical. But they have far-reaching implications. If bank money is understood as purely loan money, as this article shows, there is no initial need to save money in order to later invest, since investment can be covered by a loan. This facilitates demand and therefore the savings of third parties, which otherwise would not have been possible. The banks' credit money therefore is anything but neutral, as in good times it enables momentum and growth, but because its production is dependent on the demand for loans, it is also extremely vulnerable to crisis. In a crisis, no one wants to take up a loan - and even if they do, the bank will not grant it due to poor repayment forecasts. Instead, more and more loans are being returned, and therefore money supply and demand decline even more. Credit money needs profits, and thus has a pro-cyclical effect. In a crisis it becomes part of the problem and cannot recover by itself. And even a zero percent key interest rate and the flooding of banks with central bank money does not lead to more lending in a proper recession.

Against this backdrop, it is all the more important to focus on government money creation through deficit spending. The MMT analysis proves deficit spending to be much more than just

government debt. It is also “the mother of all money creation” the democratic creation of money for politically useful purposes as well as the only countercyclical money creation that can supply people with money when no one else can.

15. More about Modern Monetary Theory?

Since the 1990s, MMT has been developed by economists and financial market practitioners in the USA such as Randall Wray, Warren Mosler, Stephanie Kelton, Pavlina Tcherneva as well as William Mitchell in Australia. The most important German representative is Dirk Ehnts, whose book "Geld als Kredit" (“Modern Monetary Theory and European Macroeconomics”) was instrumental for this article and is also the source of the T-account presentation. MMT-economists refer to the following historical predecessors and their ideas: Abba Lerner (inflation and unemployment are crucial, not the national debt), Georg Friedrich Knapp (money derives its value from state taxation), Alfred Mitchell Innes (credit money forms with equal debt), John Maynard Keynes (the expenses of one, always constitute the revenues of another), Wynne Godley (revenues equal expenses also on a sectoral level), and Hyman Minsky (credit money leads to crisis susceptibility of the financial system).

MMT is to a large extent purely descriptive and analyses the current state of our monetary system. The methodology consists of empirically tracking practices in the financial system and ministries of finance, as well as accounting transactions between all private and state participants. It applies an additional analysis of the balances of different sectors (private, government, foreign), which corresponds to accounting at macro level. According to this methodology, MMT results are also falsifiable, which is unique in monetary theory. As far as this descriptive part is concerned, no scientific objections exist. It is exactly this descriptive part of MMT that this article tries to summarise.

Aside from that, there is also a normative part, in which MMT economists draw conclusions from their analysis. They present different ideas for the sensible management of monetary and fiscal policy that could initiate far-reaching changes. Understandably, this part of the theory often leads to opposition and polemics, for the profound political implications. However, the objections are usually generalised, and compensate for the lack of valid arguments against the descriptive part. For the sake of achieving a complete picture, what follows is an overview of the normative element of the MMT. MMT economists agree that the amount of public debt is in itself insignificant and does not deserve further attention. They advise to consider the figures of unemployment and inflation instead, because these are the two real phenomena that should actually be controlled. The focus on government debt is thereby pointless, as there is no empirical evidence of causality between government debt and inflation. MMT economists thus come to the provocative conclusion: as long as there is no significant inflation, the state can exercise its monopoly on money creation and spend money on its democratically decided policies. Preferably, it should do this through the creation of work. MMT-economists sometimes put it bluntly by saying that if unemployment is too high, then the national debt is too low. With regards to monetary policy, MMT-economists recommend coping with inflation by adjusting taxes rather than the key interest, since a high key interest rate often slows down the real economy to an extent that triggers the rise of unemployment. The key interest rate as an instrument would thus turn dispensable and the payment of interest would become a political matter.

Besides, MMT-economists have come up with a very concrete and socially far-reaching

proposal, which can only be touched on here. The so-called MMT job guarantee would work to solve the two most important problems of monetary and fiscal policy at the same time: unemployment and monetary stability. The job guarantee advocates the right to a state-assured job for everyone who is able to work, wants to work and can't find a job. This program would act as a strong automatic stabiliser for the economy. In recessions, many people would transfer from the private to the public sector of the job guarantee – demand would therefore decrease slower than in other cases, and deflation would be avoided. The necessary deficit spending would not lead to inflation, since on the one hand the additional work would create extra services and on the other hand, employees in the public sector would be remunerated at a state-approved pay rate, which anchors the price of labour to counteract inflation. Once an economic recovery occurs, more people would return to the private sector. Private employers could draw from a pool of educated workers from the public sector, so that even in boom periods, the rise in wages and prices would be delayed. Nevertheless, should inflation occur, the state could increase taxation to remove demand from the system.

Regardless of one's opinion on the job guarantee, MMT extends the democratic scope in general. The state possesses money because it can create money. Government debt is not a problem in and of itself but is instead the flip side of money creation. By adopting this mindset, we could focus on *which* political projects to finance instead of discussing *how* to finance political projects. This theory is encouraging, especially regarding upcoming transformational processes in the context of climate change and future crises. It demonstrates that we have the means to shape our future.

This text is based on decades of studies by economists of Modern Monetary Theory (MMT) and makes particular use of the balance sheet perspective that Dirk Ehnts uses in his book "Modern Monetary Theory and European Macroeconomics". There is overlap between this text and the author's book on modern monetary theory, which is expected to be published by Westend Verlag in spring 2023.

Glossary

Cash: money in its material form, that is, notes and coins. It is issued by the state and is the official legal tender. Cash is a part of the central bank money. Only the exchangeability into cash gives the deposit money its value. Cash is the only type of money that circulates in both money cycles.

Central Bank: the bank of the state and the institution that practically carries out the creation of the state fiat money. The central bank creates money for the financial system on its own initiative and can, in a banking crisis, stabilise it with unlimited credit, acting as the so-called 'lender of last resort'. But the central bank also creates the new money that is needed for the government's deficit spending, although in many states the central bank and government won't collaborate directly but instead use banks as intermediaries. The most important instrument with which the central bank pursues its monetary policy and tries to influence the banks' money creation activities is the key interest rate.

Central bank money (currency or reserves): the actual national (or supranational) currency. The central bank creates it as cash and as non-cash money in central bank accounts. Government, central bank and banks use only central bank money among one another. The banks' deposit money gets its value only by being exchangeable into central bank money. Banks always need central bank money: for cash withdrawals to their customers, for settlements and transactions with other banks and for minimum reserves. The banks get it from the central bank at the key interest rate.

Deficit spending (deficit expenditure): the part of the annual government budget, which is not covered by tax revenues of the same amount. Deficit spending leads to money creation by the state and the newly created money ends up as credit on the accounts of households and companies. The deficit spending of all the years sums up to the sovereign debt.

Deposit money (bank money, bank deposits, giral money): the deposits that we citizens have on the assets side of our current and savings accounts. Deposit money is generated by the banks whenever they grant loans to households and companies or buy value from them. For the banks deposit money represents a debt to their customers, as they have to cash it out or transfer it on their behalf – therefore, it is on the liabilities side of the bank balance sheet. Together with state cash, deposit money is the money that households and companies use for their financial interactions.

Fiat money: money issued by the government that is not covered by any material equivalent, such as gold or silver. Fiat money has been the international norm for money at least since 1971, when the USA abolished the last remnant of the gold standard. It has the advantage that each state can freely create its own money and technically cannot go bankrupt as long as it is indebted exclusively in its own currency.

Government bonds: government promissory notes. They have a term, are denominated in a currency and usually offer an interest rate. Government bonds are very popular with investors as the safest possible investment, and they are indispensable for institutional investors such as insurance companies. Contrary to common belief, government bonds do not serve to raise money for the state (as it has the money creation monopoly and the central bank). Technically, government bonds rather serve to absorb liquidity out of the banking sector, and thus guarantee

the effectiveness of the key interest rate. Government bonds which are resold to private individuals shut down demand and thus also have an anti-inflationary effect.

Key interest rate (base rate, prime rate): the interest rate that the central bank charges commercial banks for the central bank money they lend. In the case of a national currency, the interest rate for government bonds is only slightly higher than the key interest rate, as these are as safe as the currency itself. The banks pass on the rate to their private customers with respective risk surcharges. With these mechanisms, the key interest rate influences all interest rates in a currency area. For the central bank it is the most important instrument. When the economy is running hot, with the banks granting more and more loans and inflation is threatening, the key interest rate is raised and acts as a brake. In a recession, lowering the key interest rate is less effective, as even a loan at zero interest is too expensive if demand and profit expectations are lacking.

Public debt (national debt, government debt, sovereign debt): the sum of all annual budget deficits, minus budget surpluses in other years. The public debt also corresponds to the money that the government has created in favour of the private sector over the course of its existence and has not taxed back, and thus (disregarding inflows and outflows of foreign money) mirrors the net savings of the private sector.

Public debt ratio (debt to GDP ratio): the public debt not in absolute terms but in relation to gross domestic product (GDP). This means that the public debt ratio decreases automatically when GDP increases. Even if government debt is rarely actually repaid, the public debt ratio has been able to fall repeatedly in many countries during good economic times, a process also known as "growing out of debt". On the other hand, the public debt ratio rises automatically when GDP declines - even if no new debt is taken on.

Sectors (private sector/public sector/foreign countries): the private sector is formed by households and companies (including private commercial banks, if not specified otherwise) and it is opposed to the public sector i.e., the federal state. The third sector are the foreign countries (also named 'rest of the world'). In the analysis of an economy, each economic agent inevitably belongs to one of the three sectors.

Sectoral analysis: Taking into account that in a credit money system every credit balance has inevitably arisen with a debt, by means of the division into sectors one can answer the following question: If a country's private sector has net savings of 10-billion-euro, and the public sector of the same state has only 4-billion-euro debt - who has the other 6-billion-euro debt? It has to be the foreign countries – as someone has to have it.

Resources

For further reading:

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Binswanger, Mathias (2015), Geld aus dem Nichts: Wie Banken Wachstum ermöglichen und Krisen verursachen, Weinheim: Wiley-VCH Verlag [only on the creation of money by commercial banks and the relationship between banks and central bank](#); a nice description of the historical development of the banking system.

Deutsche Bundesbank (2017), The role of banks, non-banks and the central bank in the money creation process, Deutsche Bundesbank Monthly Report April 2017, 13-32, 2017 very technical explanation of bank money creation and the relationship of banks and central bank; official rejection of "banks as financial intermediaries" and money creation multiplier.

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Ehnts, Dirk (2017), „Modern Monetary Theory“ und Europäische Makroökonomie in Berliner Debatte Initial 28 (2017) 3, S. 89-103, 2017 [MMT overview in an easy-to-read article.](#)

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Ehnts, Dirk (2019), Modern Money Theory – Interview mit Dr. Dirk Ehnts , Money Masters Germany <https://www.youtube.com/watch?v=7I3PrtZ19rQ>

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Hamburg Open Online University, „Was ist Geld?“ <https://was-ist-geld.de/einfuehrung/> **Blog:** Ehnts, Dirk: <https://econoblog101.wordpress.com/>

Blog: Mitchell, Bill: <http://bilbo.economicoutlook.net/blog/>

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3. Training material

Methodology

Activity 1: Founding a state together

In short:

The group establishes a democratic state with its own currency. It plays, and balances three household years with public spending and taxation. The group observes and later discusses how public deficits and private savings develop in relation to each other.

What is learned:

- The state has the monopoly on the currency, money creation being a sovereign right of the state.
- The state's currency monopoly is exercised democratically through budgetary legislation.
- Government money creation must be accounted for as debt according to reigning accounting rules.
- Government money creation accounted for as government debt ends up in private accounts.
- Government debt and private net savings rise and fall in parallel (leaving out the rest of the world sector).

Materials needed:

Blackboard, coloured paper (to make the money), coloured paper (to record the results of the small groups and missing elements to post on wall).

Game Part I: The State is established, government and name of currency are chosen

- 1. The group forms the parliament of the new state and elects Head of government and Finance Minister.** Finance Minister appoints head of central bank.
- 2. The parliament decides on the name of the currency.** Head of government collects the name suggestions on the blackboard and calls a vote. (In the Example attached: *the Modern*)
- 3. Policy decisions and the first budget law are made.** Head of government asks parliament for policy goals. Each parliamentarian names a goal which is noted on the

board. The Finance Minister writes behind each goal e.g. *10,000 Modern* and then adds up the budget. Parliament approves the budget by majority vote, thus passing the first budget law of the new state. (In the example attached: 10 participants pass a budget of *100,000 Modern*).

4. A tax law is passed. Parliament decides how much of government spending should have come back to the government through taxes at the end of the year. (Tip for trainer: do not explain too much but go ahead with percentage suggestions. Government notes three percentages on the blackboard (e.g., 10%, 50% 90%). A vote takes place.

Game, Part II: First year with deficit spending and taxation – and a first balance of government and private sector

1. Money creation and spending. Head of the Central bank crafts as many banknotes as needed for this year's government spending. The Finance Minister spends the money to realize policy goals. In this case, the group plays the population and receives the government spending as social security or payment for goods and services.

2. Balancing. Minister of Finance notes the government money creation as debt on the board. Trainer explains the universal accounting rule: money creation is legally and traditionally always noted as debt of the money creator.

3. Tax collection and final balancing. Minister of finance collects taxes, notes tax revenue on the blackboard and draws a balance sheet for the first fiscal year. (Example in the appendix: Tax law of 10% taxation, thus, the government has *10.000 Modern* tax revenue, and therefore *90,000 Modern* debt at the end of the first fiscal year).

4. Head of government counts the savings of the group representing the private sector and writes them on the blackboard. (Example attached: *90,000 Modern* new savings of the private sector at the end of the first year).

Game Part III - Two more budget years: a balanced budget and a surplus budget. Comparison of the evolution of public debt and private sector savings.

See balance sheet examples in the appendix.

Appendix: Balance sheet examples for 3 game sessions

1. Year (example for deficit budget)

Government spending:	-100.000 M
Tax revenue:	+ 10.000 M
Deficit:	- 90.000 M
Total state debt:	- 90.000 M
Private sector savings:	+ 90.000 M

2. Year (example for balanced budget)

Government spending:	-100.000 M	
Tax revenue:	+100.000 M	
Deficit:	0 M	
Total state debt:	- 90.000 M	(stays the same)
Private sector savings	+ 90.000 M	(stays the same)

3. Year (example for government surplus):

Government spending:	100.000 M	
Tax revenue:	+120.000 M	
Surplus:	+ 20.000 M	
(Private sector deficit:	- 20.000 M)	
Total state debt:	- 70.000 M	(shrinks)
private sector savings:	+ 70.000 M	(shrinks)

Activity 2. Discussion and summary of results

Discuss in small groups (in twos or threes) the following questions and record results on coloured slips of paper.

- What is government deficit spending? What does it mean for the savings of households and companies?
- What does a balanced budget mean for the private sector's savings?
- What does a government budget surplus mean for savings of households and companies? What are the government's two options, when inflation is imminent?
- Which two possibilities does the government have to strengthen demand when there is an economic crisis?
- What else did you notice? What connections did you observe?

Organize results on the wall

The small groups hang the slips of paper on the wall and sort them thematically.

If the group has come up with questions and objections about the missing elements (bonds, separation central bank, Eurozone-limitations et cetera) these collected observations can be posted on a different wall with the trainer briefly sorting them and explaining the answers.

Final discussion in the whole group

- What did you think about public debt before? What do you think now?
- Is government debt good or bad?
- Is government debt a real debt? How is it different from debt owed by a private individual?
- What is the role of taxes? To what extent can they prevent inflation?

Tips for trainers:

1. Always point out to the group that it changes roles twice during the game. It alternates between playing a) the voting population, b) the parliament that elects the government and makes laws c) the population as an economic actor, the so-called private sector consisting of households and businesses that receive government benefits and have to pay taxes.

2. Clarify from the beginning: this is a simplified but nevertheless very insightful example on state money creation. Invite learners to note missing elements on coloured pieces of paper as they come to their mind and then turn back to the game. The missing elements can be posted on a selected wall in the discussion and the trainer can sort and add.

Elements of our Money system that are missing:

- Commercial banks/the money creation of commercial banks when granting loans
- Two stage money system (government currency + banks' fiat money)
- Sale of government bonds to commercial banks and other investors
- Separation of the two state institutions, the Ministry of Finance and the Central Bank/ prohibition of direct cooperation of both in many states, detour via financial markets
- The legal self-restrictions the states of the Eurozone signed up to
- Foreign states (= the third sector foreign countries) and the money that flows in, from, and out to them.

Conclusion with regards to the missing elements:

These factors make the processes more complex, but none of them abrogates the state monopoly on currency and with it the democratic power to create and spend money in the budgeting process. When it comes to the balancing of government debt and private savings, only the inclusion of the foreign sector can actually change this parallel movement. Instead of two, we then have three sectors whose net savings and net debt must correspond. The deficits of two sectors (e.g., government and abroad) must then be arithmetically equal to the net savings of the third (in this case the private sector).

Additional task for ambitious learners:

Ambitious learners can be invited to peruse the long version of the article by themselves or in small groups to find out about the missing elements and why they do not change the results on the money monopoly as experienced in the play. They can present their findings to the whole group.

Activity 1: Founding a state

Activity title	<u>Founding a new state</u>
Overview	<p>Together, the group finds a new state and acts out the phenomena: currency monopoly, democratically decided money creation, public expenditure and taxation. Then it plays another two or three annual budgets and observes the parallel development of public debt and private savings.</p> <p>Afterwards: discussion on public debt</p>
Objectives	<p>What should the participants take with them?</p> <ol style="list-style-type: none"> 1. government deficit spending is money creation in the democratic process, at best for the common good. 2. public debt is not like private debt. It is money creation within the currency monopoly that is registered as debt. 3. public debt and private net savings move in parallel, one increases, the other increases, when public debt decreases so do private savings. 4. understanding the following terms: currency monopoly, government money creation, government expenditure, deficit spending, government budget, budget deficit, balanced budget, surplus budget, government debt, private sector, net savings
Materials	Paper and pencil for money creation, a board on which the public debt can be written down in a clearly visible way.
Time	<p>15 minutes: introduction</p> <p>30 minutes: for playing the foundation of the state</p> <p>30 minutes: for playing the first budget year</p> <p>15 minutes: for playing 2-3 further budget years</p> <p>30 minutes: discussion on the nature of public debt</p>
Group size	3 to 20
Instructions for trainers	<p>Introduction:</p> <p>Some questions for a little discussion about money and where it might get its value from. Introduction to the topic of taxes.</p> <p>Play part I:</p> <p>Founding a State, choosing a Government and a Currency</p> <p>Play part II:</p> <p>First Government budget, deficit spending, taxes and balancing</p> <p>Play Part III:</p> <p>2-3 further budget years, to show the parallel trend in public debt and private savings</p>

	<p>Discussion: What did you think about public debt before? What do you think know? What is usually associated with public debt. Is it logical to you that the governments money creation is registered as debt? Does it seem a real debt? Is there a difference to the debt of a private person?</p>
Evaluation	<p>At the end of the discussion round: everybody could answer briefly two questions: Was there a moment in the play that let you notice something interesting or new, which moment was that? Is there now something about money and debt you would like to know more about?</p>
Tips for trainers	<p>The initial state formation phase could take longer, especially if there are many players. Giving this space shifts the focus to the aspect of the state monopoly on money and the democratic process of money creation through deficit spending.</p> <p>If the trainer focuses on the technical side, namely, the ratio of public and private deficits/surpluses, it is a good idea to keep the state foundation short, to assume some things and leave more time for the game parts II, and III.</p> <p>If the game is limited to two budget rounds, the second round should be a surplus budget, so that it becomes clear how private savings are diminishing again at the same time as public debt.</p> <p>When the tax law is passed, a percentage is set, which may sound strange in the first round. The trainer should not explain too much here, push the vote forward and be sure that the group will have understood the meaning very well in the second round.</p> <p>The group plays the parliament in some phases of the game and the population/real economy in others. The trainer should specify these changes clearly.</p>
For inspiration	<p>As an inspiration for those who understand German: a talk, in which Dirk Ehnts tells a state-founding-money-and-taxes-story https://www.youtube.com/watch?v=kOGVKoLQwI4</p>

More detailed information for trainers:

Introduction:

The trainer starts a question and answer session on money: what does the group think money is and, above all, where does it get its value from? After an initial discussion, she brings the topic of taxes into play and what they might have to do with the value of money. She invites the group to test this thought and, in general, the relationship between the state and money in the state-founding game.

Examples for question and answers:

Where does the money come from?

Do you know the concept of the currency monopoly? And what does it mean?

How does one get a currency monopoly, where does it say? (Constitution, laws, European treaties)

Who makes the laws? (State, Parliament, Constituent Assembly, European Council)

But do all people accept state money just because of a law?

(not necessarily, it also depends on what you can buy).

What would happen if someone else made competing money?

(probably only few would accept it, the state could also prohibit)

How can the state give its money practical binding force? (taxes)

How and under what conditions can taxes have this effect?

(If enough people must pay taxes – here can be named proof examples like poll taxes or taxes on houses that are independent of income and expenses)

How does the state make its taxes binding?

Would taxes also grant that people start to use this currency between themselves and why?

Play part I: Founding a State, choosing a Government and a Currency

1. The group elects a Head of Government

The group as parliament elects a Head of Government and a Finance Minister (FM), FM appoints the Head of the Central Bank. The three represent the state.

2. The parliament determines the name of the Currency.

The head of government collects name proposals on the blackboard and have them voted on. (Further it is assumed here that the new currency is called *the Money*)

3. Political decisions and a first budget law

The Head of government asks the parliament about its political goals. For the sake of simplicity, you might want to have everyone name a political end, which will be noted on the blackboard. FM writes e.g. *1000 Money* behind each and then adds up the budget. The parliament approves the budget by majority vote and thus passes the first budget law of the new state.

4. A tax law is also passed

The parliament decides what percentage of the annual expenditure should be recouped through taxes. Question wording: "How much of government expenditure should be returned to the state through taxes this year?" Don't explain too much here, but perhaps start with suggesting percentages. Collect three suggestions, vote.

Play part II: Money creation, first public expenditure and balancing

5. Head of the central bank makes banknotes

She creates exactly the amount needed for this year's government expenditure.

6.FM spends money and records it in the budget balance

The group now represents the real economy. FM gives people the money to fulfil the political ends set in the budget law.

Afterwards, FM notes the state expenditure on the blackboard:

Government budget, year 1:
-1,000 Money deficit spending

7. FM collects taxes and completes the Government budget

F.M. reclaims taxes as predetermined in the tax law.

(Maybe he appoints a tax authority who does the collecting)

In our example the FM now completes the balance sheet as follows:

Government budget, year 1:
-10,000 Money deficit spending
+ 8,000 Money tax revenue
= -2,000 Money...household deficit, year 1

On the balance sheet: Why is the state's money creation listed as debt?

Accounting conventions: In our monetary system, money creation is always registered as a loan and thus with an equal amount of debt

With a state monopoly on currency, the state must create money because nobody else can. Together with the accounting rules, this means that the state cannot "have no debts". Otherwise there would be no money...

8 Head of government examines private sector savings

Head of government makes survey in the private sector and adds up the savings of all households and companies and then announces the net saving of the private sector/population.

It should turn out that the private net saving is equal to government debt.
(in year one the annual deficit is still equal to the total amount of government debt)

Play Part III: Two to three more fiscal years show parallel trends in public debt and private savings

In subsequent budget years, both taxes and expenditure may change.

(In order to keep an overview, it is recommended to change only one of both in comparison to the previous year). Some or all of the following effects should be apparent

Several budget deficits add up to an increasing national debt
(record national debt separately from the annual budget).

A surplus budget reduces the national debt, but also private savings
Increasing taxes has the same effect as reducing revenues,
both times leaving less to the private sector, the opposite effect
is achieved by reducing taxes and increasing expenditure.
If the government had the ambition to reduce the national debt to zero,
all savings would be gone and there would be no more money in the real economy.

Activity 2: Issuing government bonds

<p>Activity title</p>	<p>Issue government bonds (possibly as a continuation of the activity "founding a state")</p>
<p>Overview</p>	<p>Part 1 Government bonds made easy As in the activity "founding a state", there is a finance minister, a head of the central bank and the group that plays the population or the private sector. First, the government again decides on deficit spending and pays the population for goods and services. The resulting national debt is noted on the blackboard. The new private sector assets are also noted on the blackboard. Then the government issues government bonds for the same amount of deficit spending. It sells the bonds to the population. The changes are entered on the balance sheet of the state on the blackboard. It will become clear that the issuing of bonds does not change the debt level of the state. There is only a change in the kind of debt. Then the government bonds fall due and are repaid - again we see on the blackboard that the government debt stays unchanged. Discussion What is changing instead? What effect do the government bonds have? Answer: Bonds change liquid money into a non liquid asset. What consequences could that have? In what situation will that be helpful?</p> <p>Part 2: Government bonds and the banks This passage is more complex and takes into account the role of the banks. It illustrates government spending in a two-stage monetary system. Again, the government decides on deficit spending. But this time, the government transfers the money to the recipients through its banks. The banks keep the state money and pass it on to the recipients. The head of the central bank complains that the banks have too much central bank money – they will not need to borrow money from the central bank against the key interest rate. The key interest rate will not work anymore. To help the central bank the government is now selling government bonds to the banks. The excess liquidity in the banks is sucked up, and the central bank's monetary policy with its key interest rate is possible again.</p>
<p>Objectives</p>	<p>What should the participants take with them?</p> <ul style="list-style-type: none"> - Because of its currency monopoly, the state can create money with the help of its central bank. - State deficits are the counterpart of the savings of the private sector. - Government bonds are not necessary to raise money. Instead, they have the function to change liquid state money into a solid asset, also guaranteed by the state. - The sale of government bonds changes the kind of debt the state holds in its balance sheet, and to a change on the asset-side of the citizen, or the bank. Only the type of the debt or credit changes. But the amount of the net assets remains unaffected. - When government bonds are sold to citizens, the liquidity of the private sector decreases, and so does total demand. Government bonds that are sold to the public therefore counteract inflationary tendencies. - In a two stage monetary system, private individuals cannot hold non cash central bank money, they only use the banks' deposit money. The banks are intermediaries and "translators" between the two types of money.

	<ul style="list-style-type: none"> - When the government spends government money in a two stage monetary system, both the amount of bank money in the public sector and the amount of central bank money in the banks is increased by their "translation". - The rise of central bank money in the banking sector is an undesirable side effect of the deficit spending. It disturbs the central bank, because it wants the banks to have to borrow money from it again and again at the key interest rate. - Government bonds that are sold to and with the help of banks absorb this excess liquidity in the banking sector. Only in this way can the central bank enforce its key interest rate.
Materials	Paper in three colours to mak central bank money, government bonds and deposit money (paler, smaller), a board on which the government debt levels can be noted clearly visible. A slip of paper with the text for the head of the central bank.
Time	1,5 hours
Group size	3 to 20
Instructions for trainers	<p>part 1. Government bonds made easy</p> <p>protagonists:</p> <ol style="list-style-type: none"> 1. head of the central bank 2. finance minister 3. the group as population and private sector <p>1. deficit spending:</p> <p>See activity "State foundation". The government decides to spend 2200 money on government expenditures that are not covered by tax revenues. The central bank makes the money, gives it to the Minister of Finance. The Finance Minister pays citizens for goods and services. The deficit expenditures are noted on the blackboard as national debt:</p> <p>Government debt before government bond are issued:</p> <p>Deficit expenditure 2020: -2200 Money Government debt: -2200 Money</p> <p>2. selling government bonds to the population</p> <p>The Minister of Finance issues government bonds in the same amount as the national debt, (here in the amount of 2,200 money). The bonds are denominated in the national currency, i.e. money, and are issued in the same denomination as the money. But unlike money, government bonds promise an interest rate and have a term.</p> <p>On a government bond, for example, it could say: "Government bond, value:100 Money, term: 1 year, interest: 5%. The government bonds can be labelled or simply differ by colour or form. The Minister of Finance offers the government bonds with the appropriate information for purchase. Most players should be interested in the deal. The Finance Minister exchanges the government bonds for the banknotes.</p>

What happened? Does the state now have higher debts due to the issue of government bonds?

Government debt after issuing government bonds:

Deficit spending	-2200 Money
Income from the sale of government bonds	+2200 Money
Debt from government bonds	-2200 Money

Government debt: **-2200 Money**

On the blackboard we see the balance sheet of the government after the bond issuing. The net assets have not changed. The state previously had 2200 money public debt from money creation for the deficit budget. Now the money comes back. The revenues cancel the debt from the money creation. However, a new debt has been created instead: Because now the state owes its citizens the repayment of the government bonds. From the point of view of the state, then, it is a change of liabilities: which means that it has exchanged one debt for another (the debt from money creation for the debt from the government bonds) without any change in the total result. From the point of view of the citizens, on the other hand, it is a change in on the asset side. They have exchanged liquid state money for an interest-bearing government bond.

Government bonds become due

What happens if the government bonds are due after one year - does the government have a problem then? No. Again money and government bonds are exchanged. The bonds expire and the citizen are paid back their money - which leads to a renewed deficit expenditure of 2200 Money for the state. But the liability of the bonds has expired. The private sector now has again money instead of government bonds on the asset side. And the government again owes from the money issuing and no longer from the bonds. The only factor that changes the net assets for both parties is the 5% interest that the private sector receives and the state has to pay.

Part 2 Government bonds and the banks

protagonists:

1. head of the central bank
2. finance minister
3. 1-3 bank director
4. the group as population and private sector

The government's deficit spending...

This passage is more complex and takes into account the role of the banks. The "population" gathers in groups behind their banks. The government is again making deficit spending. Again, the central bank prints money, but this time the government transfers the money to the banks through the central bank.

...is translated into deposit money by the banks



	<p>A chain is formed. The Minister of Finance announces to transfer 200 Money as Corona-immediate-aid to each citizen. Then the central bank takes 200 money each and hands it to the recipient's bank. The bank, however, keeps the state money and passes another kind of money on to the recipient - the so-called deposit money, which the banks make themselves. (For example, from smaller, paler pieces of paper on which they paint a DM for deposit money). In the end, all citizens have their deposit money with which they do business among themselves.</p> <p>The head of the central bank fears for the key interest rate:</p> <p>The banks now each have a small pile of central bank money on their desk. This is a problem for the head of the central bank. She now says her text loudly and lamentingly: "My key interest rate no longer works! My key interest rate no longer works! The banks already have enough money. Nobody has to borrow money from me at the key interest rate anymore!"</p> <p>Short explanation from the trainer: The key interest rate is the most important instrument for the monetary policy of the central bank, as the key interest rate influences the whole economy. But to make changes in the key interest rate effective, banks must always borrow new money at the actual key interest rate from the central bank. (See article section 7 What part do government bonds play in deficit spending? And 12. when does inflation arise? And why is deflation a problem?)</p> <p>Government sells government bonds to the banks</p> <p>Now the government does what it always does: it is selling government bonds to the banks – the same amount of the former deficit spending. The banks have no choice but to buy. It is a good offer. Now the banks no longer have central bank money, but instead the government bonds that pay an interest. In return, however, they will soon have to borrow money from the central bank again for their business ... at the key interest rate. The head of the central bank is relieved. Her most important instrument is working again.</p> <p>In conclusion, ask what the participants have learned about government bonds. In the end summarize once again:</p> <ol style="list-style-type: none"> 1. government bonds do not serve to raise money. They have various other functions: most important government bonds make a monetary policy with the prime rate possible. By selling government or central bank bonds to the banks, the government or central bank can take back to the banks the excess central bank money that is stuck with them. In this way, they remain dependent on constant credit from the central bank at the prime rate. 2. When the population buys government bonds (through the banks), they also serve the purpose of reducing demand in the real economy and prevent inflation. 4. Bonds are the safest possible form of investment. Banks and insurance companies need them for security. And private individuals also love government bonds as a risk-free form of investment. Financial markets are hard to imagine without government bonds
Debriefing and evaluation	
Tips for trainers	

The most important information on these exercises can be found in the paragraphs of the article on MMT: “6 If central bank money and fiat money move in separate monetary cycles - how does government spending make its way into the deposit money cycle and thus into the real economy?” “7. what part do government bonds play in deficit spending?”

The activity is best performed with a group that has already performed the state-founding game. If the group instead is new to the topic, invest some more time in the first round with the first deficit spending.

Challenges that might occur: .

If in part 1 not all citizens want to exchange their money for government bonds, it doesn't matter. Then the government debt on the blackboard is made up partly of the original deficit spending and partly of government bonds. The trainer can say that she will later sell the remaining government bonds in an auction to the banks, which will certainly take them.

The participants may ask: Why are the banks buying bonds even when there is a 0 interest-rate, or even a negative interest rate? Because the central banks can make them do so. All central bank money exists on central bank accounts. The central bank can ask the banks a negative interest rate on the central bank money that the banks are holding in their account. If the negative interest is even more negative than the negative interest on bonds – they will be the lesser of two evils and banks will buy the bonds. Central banks have three different key interest rates. By manipulating them, they can make banks buy bonds at any rate they decide.

If the participants say that the government cannot simply get money from the central bank when it wants to (keyword: ban on public financing) the trainer can explain that the relationship between the government, the central bank and the banks and the order of money flows is regulated differently in different countries.

But that the game shows two basic truths that apply in all countries with their own fiat money: The state in its two roles as government and central bank has the monopoly on the currency (no matter how the processes between the two state institutions are organized). And government bonds are used to withdraw liquid money from circulation and replace it with a fixed value investment.

If the learners insist on a completely realistic presentation or show great interest in the different institutional processes and the practical implementation of government debt, then in another lesson hand out information on the procedure of government debt in Canada, the USA and the euro zone. Three participants could form three groups, study the process in one country and then try out for themselves how the game would have to be adapted to represent the respective money creation mechanisms.

More on <http://economic-literacy.eu>

Activity 3: Bank money creation

Activity title	Activity 3: Create money through a loan – and buy a bicycle
Overview	In groups of two or three persons we do a money-creation role-play. In teams with the help of simplified T-accounts to fill in, we simulate how a loan is granted in a bank and new money is created in the process. The money is then transferred to buy a bicycle. Later, the loan is paid back, and the money disappears again. The T-accounts make the money-creation, the transfer and the expiring of the money visible and feasible. The teams develop the solution together.
Objectives	<p>The following should become visible through the game:</p> <ul style="list-style-type: none"> - Money is created in form of loans - Money is created with a corresponding debt - Money moves through accounts and balance sheets - The expenditure of one is the revenue of the other - Money disappears through repayment together with the corresponding debt - T-accounts and balance sheets have two sides and communicate with each other - Deposit Money is a legal obligation of the bank towards it's client - It get's it's worth from the state money you can get for it and from the legal order that guarantees the claim
Materials	Worksheets with simplified T-accounts, eventually a black/white-board
Time	1,5 hours
Group size	2 to 30.
Instructions for trainers	<p>Preparation</p> <p>Form teams of 2-3 players: a bank employee, a client who asks a loan and eventually the bicycle dealer who will get the transfer.</p> <p>Step 1: Creating Money by granting a loan</p> <p>Explain how money is created by giving out loans. You can explain and at the same time showing the procedure already at the blackbord. Then clear away and let the teams repeat the operation in a role play.</p> <p>Or, for more advanced students: Let the teams figure out by themselves how loan and money creation could be registered in the T-accounts (Giving them the information that every party gets two entries, one of the asset and one of the liabilities side). Visit the teams, let them explain their thoughts, give tips. When all have finished, show them again step by step on the blackboard.</p> <p>Step 2: Transferring the money to the bicycle dealer</p> <p>Explain basic facts on how money is moving through bank accounts. And that net assets are entered strangely on the “wrong side” to make the balance balance.</p> <p>Let them try on the T-account-sheets in teams</p> <p>Step 3: Paying back the loan</p> <p>Explain that paying back a loan means reversing the whole process. And that by repaying not only the debt but also the money expires.</p>

	<p>Let them try on the balance sheets in teams.</p> <p>Step 4: Discussion about the bank's deposit money creation In the end the students should have understood: 1. There are two real obligations (one for each party) that back up the money. 2. There is the state money behind the bank's money that gives it worth. 3. There is a functioning legal order that guarantees the claims of both parties.</p>
Debriefing and evaluation	
Tips for trainers	<p>Role play and teams Also, if there is an element of role play, the more important part is, that the team should work together on the solution, discussing and explaining it to one another and to themselves. You could for example tell them, that the bank employee is new to her job, the bicycle dealer is a friend who has come along, and all try to help together to fill in the T-accounts.</p> <p>Possible connection to Activity 1 "Creating a new state" If you have done the Activity 1 "Creating a new state" with this group. They will already now that the state has the money monopoly and will understand easily how the state money can back up and give worth to the deposit money. They might ask: why banks are allowed to create money. See in background information "3. Why do we have two kinds of money and why are private banks allowed to make money?"</p> <p>If the group has not done Activity 1 "Creating a new state", you will have to explain more in detail why state money as the money of first order, can back up the bank's deposit money.</p> <p><u>Challenges that might occur:</u> .</p> <p>Net assets The notation of the net asset on the „wrong“ side is counter-intuitive and has to be explained well.</p> <p>In Step 2: How does the bank's T-account develop If anybody asks what happens with the bank's account after the transfer to the bicycle dealer, try to keep it simple: the bicycle dealer has her account at the same bank. The bank now owes the same amount of money to another client. So for the bank it's only a change of the creditor which does not change the net assets. (As background information: This is also true if the money is transferred to another bank, but it gets more complex. If the bicycle dealer has its account with another bank the bank now owes central bank money to this other bank. To pay the other bank it might have to borrow more central bank money from the central bank. This means a liability to the central bank instead. Therefore the type of liability the bank has, can change, but until the loan is paid back the bank will have one more claim as well as one more liability.)</p> <p>Interests are left out</p>

	<p>Explain right from the beginning, that you will teach them, how banks create money. That banks are motivated by interests to do this business. But that this lecture leaves out the interests, as the act of money creation is already a very complex topic.</p> <p>Apart from Detailed Instructions for teachers below, reread also the following chapters of the background information:</p> <p>3. Why do we have two kinds of money and why are private banks allowed to make money?</p> <p>4. How does deposit money emerge through lending? And how does it disappear again?</p> <p>5. Is the bank rich because it can create an unlimited amount of deposit money?</p>
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More on <http://economic-literacy.eu>

Detailed Instruction for teachers

Step 1: Granting and registering of a loan:

Essential facts to explain:

- When banks give loans, they don't hand out money that they already have. But they create the money exactly in the moment the loan is granted and the money is being registered.
- But there is a counterbalance to that newly created money. It comes with debt. The client knows owes to repay the sum. Thus, the client gets an asset and an obligation at the same time.
- For the bank as the money creator it's the same: it also gets an asset and an obligation: it now has the claim to be paid back the money. But on the other hand, also the bank has now a new obligation. It has to pay out the money to the client if she wishes. Both obligation and liability have to be entered into the account of the bank.
- We presume that the client in this very moment has neither money nor debts in his account.
- Explain that interests are the motivation for banks to do the money creation business. But that this lecture leaves out the interests, as money creation is in itself a complex and very little understood phenomena.

Template / solution:

Account of Client before loan of 1000 Euro is granted:

Assets	Client	Liabilities
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Registration loan of 1000 Euro in the Client's account:

Assets	Client	Liabilities
deposit money 1000		debt to bank 1000

Account of the Bank regarding the client:

Assets	Bank	Liabilities
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Registration loan of 1000 Euros in the Bank's account:

Assets	Bank	Liabilities
receivables from loan 1000		deposit money 1000

What we learn:

- Banks create our deposit money by granting loans.
- Deposit money really is nothing else than a claim of the client against the bank to pay out central bank cash. Or the right to ask a transfer the claim to another account.
- Deposit money gets its worth from the state money that you can get for it.
- Until the money is paid out or transferred both parties have merely seen a balance sheet extension, thus, an equal amount to both the liabilities and the assets side. The net assets have not changed.

Step 2: Buying a bicycle:

Essential Facts to explain:

- All money (apart from cash) travels through balance sheets.
- Every time you credit one account you have to debit another
- To determine the net assets, you subtract all the liabilities from all the assets. That is why the net assets are the last thing that you enter.
- You enter the net assets on the “wrong side”. It’s a counter intuitive convention. But balance sheets have to balance! And who knows something about accounting will know: if they find net assets on the assets side, it really means: net debts.

- We assume that the bicycle dealer has neither assets nor liabilities at the moment.

Template / solution:

Account of Client after loan before transfer:

Assets	Client	Liabilities
deposit money 1000		debt to bank 1000

Account of Client after transfer:

Assets	Client	Liabilities
Net assets -1000		debt to bank 1000

Account of Bicycle Dealer before transfer:

Assets	Bicycle Dealer	Liabilities
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Account of Bicycle dealer after transfer:

Assets	Bicycle Dealer	Liabilities
Deposit money 1000		net assets +1000

We have learned:

- A transfer means to debit one account and to credit another
- The entries of one are the outgoings of others. The outgoings of one are the entries of others.
- With the transfer the net assets of the client became negative.
- The net assets are entered “on the wrong” side to make the balance balance
- When the client has an entry of 1000 we have exactly the same situation as after the loan was granted.

Step 3: Repaying the debt

Facts to explain:

- The client has an entry of 1000 Euro from a transfer of her employer.
- After this entry we have exactly the same situation as after the loan was granted.
- The bank again owes to pay out 1000 Euro to the client. This time because of the transfer she got.

- When the client decides to use the money to repay the loan, all liabilities are fulfilled.
- But “repaying” deposit money to a bank does not work like a normal transfer that goes from asset side to asset side (as happened between client and bicycle dealer). That is because a bank can never have deposit money on its asset side. For a bank the deposit money, that it can create, is always and exclusively a debt to its clients.
- Thus, when a client “pays” money to the bank: instead of getting an asset, the bank loses a liability. That is because after the “repaying” the bank has lost the obligation to pay out this amount of deposit money to the client.
- By paying back, the client loses the duty to pay back the loan, as well as the claim to get this amount of money from the bank. And the bank loses the claim of the loan – as well as any obligation to give or transfer this amount of deposit money that has been paid back.
- Therefore the money expires from the bank’s liabilities side. As well as from the client’s asset side. The money disappears with the fulfilment of the two obligations – as it came into existence with the inverse

Template / solution:

Account of Client after earning 1000 Euro:

Assets	Client	Liabilities
deposit money 1000		debt to bank 1000

Account of Client after paying back the loan:

Assets	Client	Liabilities

Account Bank after client's new entry:

Assets	Bank	Liabilities
receivables from loan 1000		deposit money 1000

Account Bank after Client has paid back the loan:

Assets	Bank	Liabilities

We have learned:

- Deposit money is created when banks grant loans. It expires again when loans are paid back
- A bank can never have the deposit money on its asset side. But for the net assets losing a liability is as good as getting an asset.

Step 4: Discussion on deposit money

Questions:

- What is deposit money?
- What is it for the client? What is it for the bank?
- How can numbers written in a balance sheet become money?
- Where do these numbers get their worth from?
- Why do we trust the numbers in our bank accounts?
- Why do we consider them real money?
- Do we value bank accounts as highly as cash? Also in a crisis?

Reassume these elements:

- 1. There are two real obligations with real practical consequences that back up the money. There is one for each party: The client is legally obliged to pay back the money in the future. If she cannot, she will have serious legal problems. And the bank is legally obliged to pay the money out to the client or to transfer it on its behalf. In this case the bank has to hand over central bank money that it cannot produce just by itself.
- 2. There is the state money behind the bank's money that backs it up and gives it worth. (The state money gets its worth by the whole economic power of the state, its power to tax and functioning institutions that guarantee its rules.)
- 3. There is a functioning legal order that guarantees the claims of both parties. So, they can rely on the fact, that the numbers in the bank accounts and contractual obligations can be always realized.

Templates to fill in for students

1. Creating money by granting a loan

Please fill in both sides in Fig. 1 and 2

Account of the Client to whom a loan of 1000 Euro is granted:

Assets	Client	Liabilities
<hr/>		

Account of the Bank in respect to the Client after loan:

Assets	Bank	Liabilities
<hr/>		



Step 2: Transferring the money to the bicycle dealer

Please fill in both sides in Fig.2

(And if the balance does not balance, fill in the net assets)

1. Account of Client after loan, before transfer:

Assets	Client	Liabilities
deposit money 1000		debt to bank 1000

2. Account of Client after transfer to bicycle dealer

Assets	Client	Liabilities

Please fill in both sides in Fig.2

(And if the balance does not balance, fill in the net assets)

1. Account of Bicycle Dealer before transfer :
(neither assets nor liabilities at this moment)

Assets	Bicycle Dealer	Liabilities
0		0

2. Account of Bicycle dealer after transfer:

Assets	Bicycle Dealer	Liabilities



Step 3: Paying back the loan

Please fill in Fig.1 and Fig.2
– where there is something to fill in

*Account Client after earning 1000 Euro:
Please complete both sides*

Assets	Client	Liabilities
		debt to bank 1000

*Account Client after paying back the loan.
How will it look like? Is there something to fill in?*

Assets	Client	Liabilities

Please fill in Fig.2 – if there is something to fill in

Account Bank after client's new entry

Assets	Bank	Liabilities
receivables from loan 1000		deposit money 1000

*Account Bank after Client has paid back the loan
How will it look like?*

Assets	Bank	Liabilities

4. Interactive learning

Modern Monetary Systems – The Quiz

Several answers can apply per question.

What types of money are part of our monetary system?

- Cash as notes and coins (governmental).
Correct
- Central bank money in accounts at the central bank (governmental).
Correct
- The money in our bank accounts, called deposit money (non governmental).
Correct

See overview, key principles 3 and 4.

Who creates our money?

- Commercial banks.
Correct (the deposit money)
- The state.
Correct (the cash as well as the central bank money in the accounts at the central bank) - The cash cow.
Wrong (unfortunately)

See overview, key principles 2, 3, 4 and background information questions 4 and 8.

What gives the state money its value?

- The gold backing.
Wrong
- The state legal system and especially the tax system.
Correct
- The goods and services produced in the country.
Correct (especially as regards the external value of the currency).

See overview, key principles 1, 2 and background information, questions 1 and 2.

Can we ordinary people get an account with central bank money?

- No, because only banks and the government can have accounts with the central bank.
Correct
- No, we ordinary people can only open an account with deposit money at a commercial bank. If

- we want to have state money, we can have our deposit money paid out in cash. **Correct**
- If the central bank were to introduce the digital euro, also ordinary people could have an account with central bank money.

Correct

See overview, key principle 4 and background information, question 3.

What gives the banks' deposit money its value?

- The fact that we can exchange it for state cash at any time.
Correct
- The banks' equity capital.
Wrong (The banks' equity capital only covers a minimal part of the bank deposits.)
- The legal framework, banking supervision, statutory deposit insurance and additional state guarantees in the event of a crisis.

Correct

See overview, key principle 4 as well as background information, question 3.

We live in a two-staged monetary system, what does that mean?

- There is state cash and non-cash central bank money.
Wrong
- On the one hand there is state money (cash and in central bank accounts) and on the other hand there is the banks' deposit money.
Correct
- The state issues the actual currency and banks issue second-order money that derives its value from the state money.

Correct

See overview, key principles 3 and 4 and chart.

What is the special business model of banks?

- They create deposit money by granting loans.
Correct
- They pass on savers' money to borrowers.
Wrong
- They can operate irresponsibly, because in case of doubt they are rescued by the state.
Well, you might think so, given the financial crisis of 2008.

See background information, questions 3, 4 and 14.

What happens the moment a loan is repaid?

- The deposit money with which the loan is repaid to the bank expires.

Correct

- The bank can keep the repaid deposit money.

Wrong

- New deposit money is created.

Wrong

See background information, questions 4 and 5.

We live in a credit money system, what does that mean?

- Money is created when a loan is granted, i.e. with an equal amount of debt on the part of the borrower.

Correct

- For someone to be in the black ink (savings), someone else must be in the red ink (debt).

Correct

- There must always be as many debts in the world as there is money.

Correct (For specialists only: small deviations may occur because money is also created and extinguished in purchases and sales between banks and non-banks).

See overview, key principle 5 as well as background information, questions 4, 5, 11 and 14.

Why is the state not a debtor like everyone else?

- Because the state has the monopoly on currency and can afford debts. It alone may and must make the actual currency.

Correct

- Because the state central bank can create unlimited amounts of money and cannot go bankrupt.

Correct

- Because even a eurozone state could leave the euro and reintroduce its own currency, which it can then create indefinitely.

Correct

See overview, key principle 2 and background information, questions 11 and 12.

Who creates the money with which government bonds are bought?

- The banks. They finance the state with the deposit money they create.

Wrong (deposit money is only second-order money for which you cannot get government bonds and with which you cannot finance states).

- The central bank, as government bonds can only be bought with government central bank money.

Correct

- The citizens with their tax payments.

Wrong (citizens pay taxes but cannot create money).

See overview, key principle 2 and background information, questions 6, 7, 8 and 9.

What is the function of government bonds?

- The state sells government bonds to take superfluous central bank money from the banks.
Correct. (Without government bonds, there would be too much central bank money in the banking system, hindering a positive key interest rate).
- Banks and insurance companies rely on government bonds as safe investments.
Correct.
- Government bonds are essential for the government to raise the money it needs to function.
Wrong. (The state has a monopoly on currency and can produce it with its central bank. Government bonds are part of the complex procedure in the financial system, but not indispensable).

See background information, questions 6, 7, 8, and 9.

What is the Eurozone's problem?

- The states in the Eurozone have contractually neutered their money creation privilege.
Correct.
- The Eurozone itself has no institutions empowered to spend money and stabilise the economy in crisis.
Correct.
- There are 19 different government bonds, which is why the ECB cannot control the interest rate as easily as a normal, national central bank.
Correct.

See background information, questions 9 and 10.

What problem would there be if the state actually repaid its national debt?

- The repaid money expires.
Correct.
- The money supply falls and with it, sooner or later, demand and economic output. There would be a recession.
Correct.
- There would be no problems, in fact there would be a considerable economic upswing without government debt.
Wrong.

See background information, questions 11 and 12.

How can inflation be fought?

- Inflation is an uncontrollable force and can befall us at any time, even in peacetime.
Wrong.
- The central bank can raise the key interest rate so that the demand for loans and thus the money creation of the banks decreases.
Correct.

- The state can raise taxes. In this way it reduces the demand of the private sector and thus the pressure on prices.

Correct.

See background information, questions 11 and 14.

Why is deflation - a rising value of money - so dangerous?

- In the case of deflation, investment and consumption are postponed. Demand collapses.

Correct.

- There is a downward spiral in which collapsing demand and unemployment become more and more intense.

Correct.

- The central bank is powerless with its key interest rate in the case of deflation. Only deficit spending by the government and thus new public debt can break the trend. Correct.

See background information, question 13.

Creative commons advice

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