



German Advisory Group

Policy Paper Series [PP/03/2019]

## **Modern Monetary Theory: Background and implications for emerging markets**

Cyrus de la Rubia, Robert Kirchner

Berlin/Kyiv, July 2019

## About the German Advisory Group

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The German Advisory Group on Economic Reforms, which has been active in Ukraine since 1994, advises the Ukrainian Government and other state authorities such as the National Bank of Ukraine on a wide range of economic policy issues and on financial sector development. Our analytical work is presented and discussed during regular meetings with high-level decision makers. The group is financed by the German Federal Ministry for Economic Affairs and Energy.

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## **Modern Monetary Theory: Background and implications for emerging markets**

### **Executive Summary**

Modern Monetary Theory (MMT) is an increasingly debated economic concept. While mainly brought into the current public discussion by politicians in the US, the concept does have some heterodox theoretical foundations, which date back to the beginning of the 20<sup>th</sup> century.

The theory claims that budget deficits can be financed by the central bank creating thereby fiscal space, whereby the monetisation of debt is not an issue of concern, as long it does not lead to high inflation. In the current discussion, the proponents foresee the potential for a massive increase in public investments (be it for a “New Green Deal” or a “Job Guarantee Programme”), essentially without creating any harm, as inflation and interest rates are considered to be at very low levels for a very long time in developed markets.

As the main policy instrument to influence aggregate demand and inflation would be fiscal policy (i.e. spending and taxation), this leaves politicians in charge in a (very likely) situation of increasing inflation when real resources are fully employed. Would the government (parliament), as a reaction, cut expenditures or raise taxes, to bring inflation down again and pay the corresponding political price? There is nothing against a temporary fiscal impulse to offset weak demand. However, it’s another matter to have fiscal policy as the only tool to steer the level of inflation, like MMT proposes. Indeed, the central bank would have no role any more in influencing inflation, as it is just the liquid window of the Treasury. In effect, this would mean the end of independent central banks, as their function would merely consist of monetising debt. Such a concept seems not convincing, even in the current low-inflation environment in developed economies.

How relevant is this theoretical approach for emerging markets like Ukraine? Taking into account their specific economic and financial situation, not really in our view. These countries are often dollarized to a significant extent (including public debt), which clashes with some basic assumptions of the theory. They usually feature high and volatile inflation, which makes a discussion about raising output in a non-inflationary manner via a monetary stimulus pointless. The high inflation rates imply high nominal interest rates – again a major difference to the environment of zero interest rates found in developed markets. Thus, as long as Ukraine and other emerging economies are having trouble with these issues, the MMT discussion is much ado about nothing, from this perspective.

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## 1. Introduction

Given the environment of very low and sticky inflation in most advanced economies, including the US, some economists and especially politicians have revived the so called Modern Monetary Theory (MMT), which tells a simple story: As states have the privilege to print money to finance public spending, there is no classical budget restriction in the sense that there is a moment where no more money is available. Instead, each state with an own central bank can define its spending and finance it through the printing press. The only constraint is the emergence of run-away inflation. As central banks currently have difficulties to get inflation to higher levels, the conclusion of MMT seems to be straight forward: Increase the public spending and don't care about metrics like public debt-to-GDP ratio or similar indicators - a country with debt denominated in its own currency cannot go broke. As long as inflation behaves as sticky as it did over the last ten years there is no reason to worry.

Central bankers have also a viewpoint on MMT, even if they don't call it the same. Their goal is to bring inflation to sound levels and to avoid deflation. Ben Bernanke, President of the Federal Reserve Bank from 2006 to 2014, said in a speech in 2002 while he was on the Fed board: "(...) the U.S. government has a technology, called a printing press (...) that allows it to produce as many U.S. dollars as it wishes at essentially no cost. (...) under a paper money system, a determined government can always generate **higher spending** (emphasis by the authors) and hence positive inflation. "

This means, that for central banks the use of the printing press in combination with higher spending is indeed an option, to reach the target of a sound inflation level. This politics is known as helicopter-money policy.

In this Paper we will discuss first the theoretical origins of MMT, which are not new, and describe the main underlying assumptions of this approach. In a partial economic model, the effects of MMT-policy will be analyzed in a simple IS-LM-model in chapter 3. We will see that inflation and credibility play a crucial role when looking at its effectiveness. However, the fourth chapter shows that the monetary regime is also essential with respect to the question how effectively MMT-policy could be used. Finally, in chapter 5 we will draw some conclusions for emerging markets in general and more particularly for Ukraine.

## 2. Theoretical origins and assumptions of MMT

The intention of this chapter is to deliver a clearer theoretical picture of MMT. While there is no standard textbook theory of heterodox MMT, there are some theoretical approaches from academics like Mitchel (2019)<sup>1</sup>, Tcherneva (2002)<sup>2</sup> and Kelton (2012, 2020)<sup>3</sup>. The origins of MMT lie more in the past, though. In the "State Theory of Money" Georg Friedrich Knapp from 1924 and the "Credit Theory of Money" of Alfred Mitchel-Innes from 1914 the authors derive the role of money from taxation rather than from its mean of exchange.<sup>4</sup> Considering these authors and a few others, there are a couple of assumptions and model-based structures which could be wrapped up into a sketch of ideas.

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<sup>1</sup> William Mitchell, *Macroeconomics*, 2019.

<sup>2</sup> Pavlina R. Tcherneva, *Monopoly Money: The State as Price Setter*, *Oeconomicus*, Volume V, Winter 2002. Further readings of this author with respect to MMT could be found at <https://www.pavlina-tcherneva.net/modern-monetary-theory>

<sup>3</sup> Scott Fullwiler, Stephanie Kelton and L. Randall Wray, *Modern Monetary Theory: A Response to Critics*, in: *Modern Monetary Theory: A Debate*, Political Economy Research Institute, 2012.

Stephanie Kelton, *The Deficit Myth*, forthcoming June 2020.

<sup>4</sup> It seems that the economist John Maynard Keynes thinking about the state's role in the economy has been influenced by these authors, as Keynes refers to so called chartalism (which is the theory that money does exist due to the state's role and not to the need to exchange goods) in his book „Treatise on Money“.

MMT representatives have usually a different understanding of what money represents and where it does come from in comparison to the view of traditional economist. The latter see money evolved as the result of barter trade which has become too complicated in a world with increasing division of labor and geographically dispersed value-added chains. Thus, people looked on a private basis for standardized means of exchange to make trade more efficient and have a common measure to compare the value of goods and services. However, MMT-economists have a much different view. According to them, and there is quite convincing evidence that they have a point<sup>5</sup>, the invention of money has not much to do with trade. Instead, it was from the beginning a mean of power by the side of a more or less central authority. The basic idea was to oblige the people to pay taxes in the form of government issued money, generating thereby demand for government issued money. Tcherneva (2016) interprets money as a form of a method to transfer resources from the private sector to the state: „Once agricultural developments generated economic surplus, taxation was used by authorities as a method of transferring part of that surplus (the real resources) from the population to the palaces.“ In this sense MMT economists view government issued money as a means of distribution and a tool of transferring real resources from one party to another. In the context of fiat money, the state creates demand for otherwise worthless paper money.

Arguing in this tradition, MMT economist are convinced that money is not neutral, which stays in contradiction to the neoclassical view that money is neutral.

In short: MMT economists (and not only them) are of the opinion that money evolved as public good and was introduced by public institutions.

The theory is based on a few assumptions:

#### (1) Consolidated view on the accounts of central bank and central government

In most advanced and many developing countries, there is a clear institutional and legal separation between the central government and the central bank, with each institution having its own budget, functions and targets. In economic terms, both institutions are public institutions which could be consolidated. That's exactly what MMT requires for MMT to work: Consolidation of the accounts of both institutions, the central bank government accounts with the central bank accounts.

While this is something most economists and central bankers are not used to, a look at the budget constraint of the state makes it clear that such a perspective is not very far-fetched. The profits of the central bank usually derive from a stock of sovereign bonds which leads to interest rate payments from the finance ministry to the central bank. By the end of the year, the profits of the central bank are partially transferred back to the finance ministry, which is the beneficial owner of the central bank.<sup>6</sup>

The consolidated budget constraint looks like this:<sup>7</sup>

$$\Delta \frac{M}{P} + \Delta \frac{B}{P} \equiv G - T + i \left( \frac{B}{P} \right)$$

with M = Central bank money (base money); P = Price level; B = Public debt; G = government real spending (including central bank expenses); T = real taxes, i = interest rate on public debt.  $\Delta \frac{M}{P}$  is seigniorage from issuing more central bank money and  $\Delta \frac{B}{P}$  is the additional budgetary space due to the increase of public debt.

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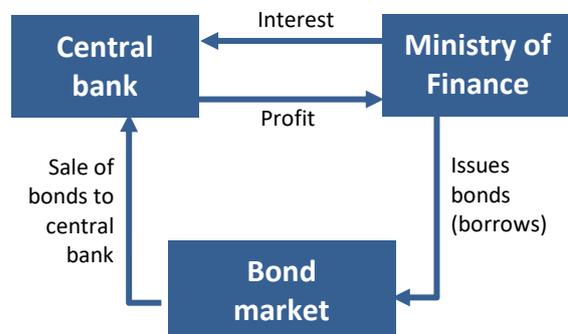
<sup>5</sup> See for example David Graeber: Debt: The First 5,000 years, 2014.

<sup>6</sup> Interestingly, in the quotation of the former Fed governor, Ben Bernanke, (see introduction) he talks about “government “instead of “central bank”, which means that he does consolidate the central bank and the government.

<sup>7</sup> See Buiter, Mann, Global Economics View, Citi Research Economics, 08.04.2019.

Thus, from an accounting standpoint, it does make no difference if the central bank has its own budget constraint or is integrated into the central government accounts.

### Separated accounts



### Consolidated accounts



Source: own display

Consolidation of the accounts of the central bank and the central government must not happen on paper. It may be sufficient for the central government to control the central bank. Thus, what MMT actually requires is above all a political consolidation of the central government and the central bank. If this does not happen, politicians would not be able to make use of the increased fiscal space which MMT-proponents claim the new approach would deliver.

This point shows that the question of consolidation could make a big difference, as conflicts of interest are more easily to be avoided with a central bank which is politically separated from budgetary decisions.

**The consolidation of both institutions is a radical form of abolishment of the political independence of the central bank as we know it from many institutions like the Bank of England, the European Central Bank and the Federal Reserve Bank. The statutes of these banks include various features which, beside the separation of accounts, are deemed to provide that the government does not interfere in the process of monetary policy conduct.<sup>8</sup>**

### (2) The state is the only institution with the right to issue money and this money is accepted

The assumption that the state has a monopoly on issuing central bank money and that this money is generally accepted sounds trivial. In most advanced economies we are used to such a world where almost 100% of transactions are done in national currency issued by the central bank. Such a world is based by itself on some other assumptions like a high degree of credibility with respect to the national currency as otherwise people would flee to other means of payment. The next chapter will show what a loss of credibility will imply for the effectiveness of MMT.

### (3) There is no budget constraint for the state in terms of default risk

Central bank fiat money is not redeemable. Thus, when the central bank issues money at basically no costs, there is no liability resulting for the issuer, as for the central bank there is nothing which could

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<sup>8</sup> See for example Steven Cukiermann and N. Bilin (1992): "Measuring the Independence of Central Banks and Its Effect on Policy Outcomes" in: The World Bank Review 6 (3).

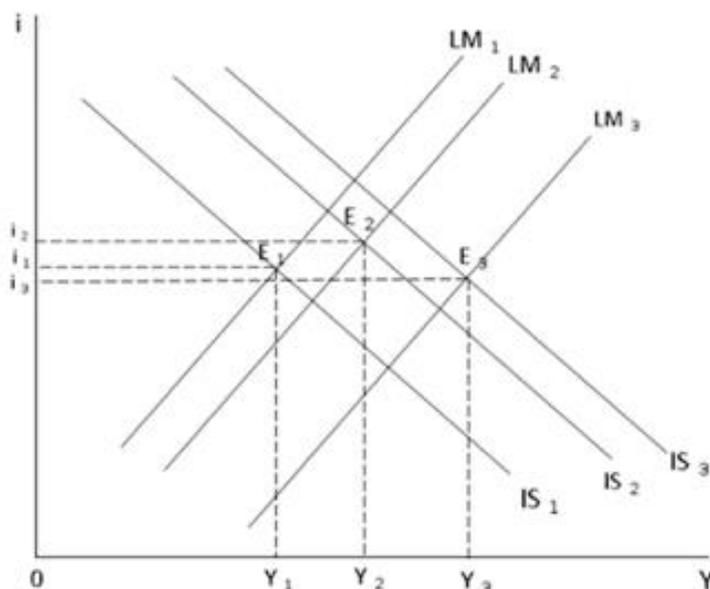
be paid back. Thus, if the private capital market is not willing to buy additional debt from the state, the central bank can jump in as there is no physical limit to print central bank money. In this sense there is no necessity for the state to default on its debt, as the central bank could play the lender of last resort.

While there is no nominal budget constraint for local currency debt with a central bank as a lender of last resort, there are empirical examples where states have defaulted on their national denominated debt. Russia for example defaulted in August 1998 on its ruble denominated short term debt (as well as on its foreign currency debt). Obviously, governments balance the costs of defaulting with the costs of having otherwise double digit or hyperinflation, leading to a complete loss of credibility.

### 3. A partial equilibrium model to analyse MMT-policy

With this theoretical framework in mind, the MMT proposal to increase spending up to the level which is deemed necessary to maximize welfare and without considering a nominal budget restriction could be analyzed in a IS-LM-model.<sup>9</sup> Let's assume a closed economy and a fixed price level. There is excess capacity, thus there is unemployment. Now the government engages in a stimulus program financed by debt issued by the state and financed by the central bank through monetary issuance.

#### IS-LM model with MMT-policy (monetary stimulus)



Source: Buiter, Mann, *Global Economics View*, Citi Research Economics, 08.04.2019

Thus, there are two things that happen in this chart. The stimulus program means that the IS-curve moves to the right. In a world without an increase of the quantity of central bank money this would imply a higher interest rate. However, the LM curve moves also to the right as central bank money is increased to purchase the additional debt. This brings interest rates down again. However, it is unclear which of both effects dominates with respect to the level of interest rates. The effect on GDP is unambiguously positive.

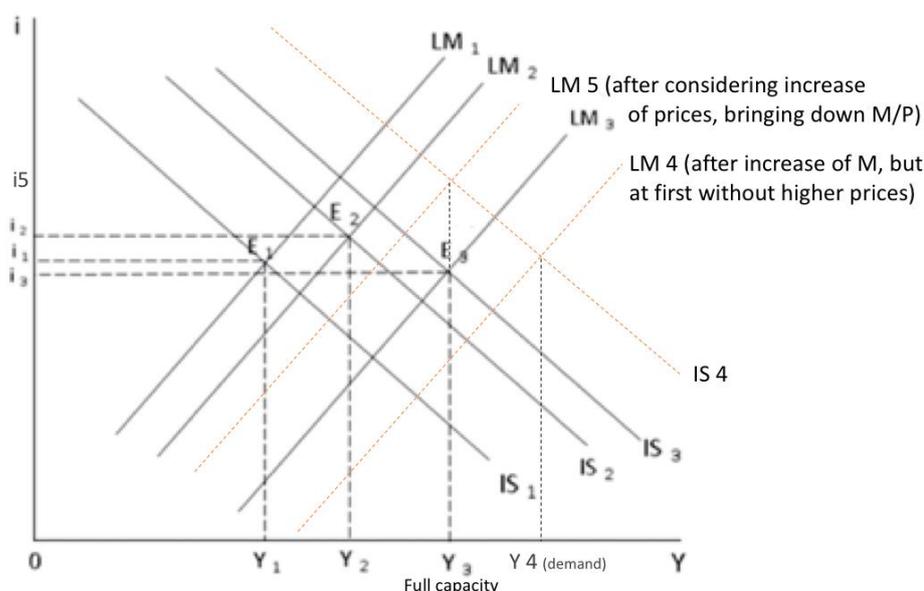
<sup>9</sup> The IS-LM-model is based mainly on Keynesian ideas of the way the money market and the goods market work. All points on the IS-curve are combinations of the interest rate  $i$  and the GDP  $y$  where the goods market is in equilibrium which is where investment  $I$  is equal to Savings  $S$ . All points on the LM-curve are combinations of  $i$  and  $y$  where the money market is in equilibrium which is where real money supply  $M$  equals real money demand  $L$ . For further explanations please refer to John Hicks: IS-LM: An Explanation Source, *Journal of Post Keynesian Economics*. Vol. 3, No. 2, Winter 1980/81.

If the same stimulus program is repeated in the next period, GDP would increase again and so on. Obviously, this could not go on forever<sup>10</sup>. As the IS-LM model is a partial equilibrium model, in this simple form it does not consider inflation which will happen if demand for goods and services hits the capacity limit.

### Considering inflation

Let's assume that  $Y_3$  is GDP demand which equals supply at full capacity and therefore full employment. What would happen, if the state would add another stimulus program financed again by the increase of money supply at this point? The demand for goods would increase (to  $Y_4$ ) which would mean that the IS-curve would move to the right. However,  $Y$  supply would stay constant at  $Y_3$  due to the state of full capacity and instead prices would increase. Rising prices would mean that the LM-curve would move (after an initial movement to the right) back again, as  $M/P$  would decrease. While the nominal money supply  $M$  would increase (due to the monetary stimulus), the real money supply  $M/P$  (on which LM is based) would not change. As a result, higher interest rates and higher prices would prevail. The impact on output is ambiguous (below shown as constant). However, even if output stayed the same, the private sector would be crowded out. The implication of this crowding out is that the private capital stock is lower than otherwise.

### IS-LM-model considering the effect of a changing price level on the real money supply $M/P$



Source: Buiter, Mann, *Global Economics View*, Citi Research Economics, 08.04.2019, own depiction

While these thoughts are derived from a rather simplified model, it is indeed kind of consensus amongst MMT economists that inflation running out of control is the ultimate limitation to government spending. Alternatively, it can be said, that the capacity limit of an economy is the limit of effectiveness of MMT policy in terms of generating GDP growth.<sup>11</sup> To bring inflation under control, MMT would suggest to use fiscal policy (e.g. tax increases or spending cuts) to reduce aggregate demand and thus inflation.

<sup>10</sup> Ultimately, the interest rate would be driven to the effective lower bound (zero, or slightly below).

<sup>11</sup> In terms of the structure of growth the state continues to be able to have an effect as at this point the stimulus measures will crowd out the private sector. An extreme case would be war expenses where the state sets the priority to use a maximum of resources for producing weapons instead of consumer goods which are not needed as a matter of survival.

### Considering credibility/dollarization

Assuming that the state would increase the central bank financed fiscal stimulus packages year after year, thereby generating increasing inflation, the central bank money may lose part of its credibility. This loss of credibility could show off in the form of lower demand for central bank money in favor of demand for foreign currency. Thus, dropping the assumption of a closed economy, people would move instead into foreign currencies, or, more recently, cryptocurrencies. An increasing part of the transactions and savings would be done in foreign currency.

In such an environment, the above used model loses its meaningfulness.  $Y$  is the GDP which is transacted in national currency. However, there is another (increasing) part of the GDP which is transacted in foreign currency.<sup>12</sup>

This would mean that the central bank would increasingly lose control of monetary policy and lose also seigniorage gains. If for example 60% of GDP related transactions would be done in foreign currency and only 40% in national currency, any monetary policy action would impact only 40% of the economy in a direct way. On the other hand, a monetary policy change in the foreign country whose currency is used would impact some 60% of the economy in a direct way.

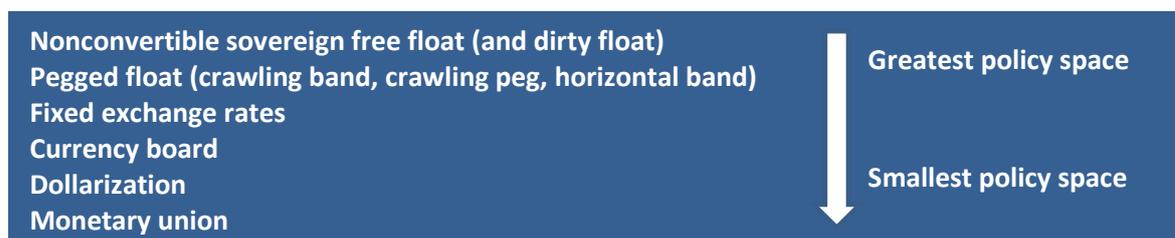
Thus, a flight to other currencies by private agents as a reaction to an MMT-policy would also be a kind of budget constraint given that a decreasing amount of newly printed national money would be accepted in the economy.

Obviously, a loss of credibility, dollarization, devaluation and an increase of inflation have on common underlying factor: weak institutions.

## **4. Different monetary regimes and the effectiveness of MMT**

It was shown that inflation dynamics and credibility play an important role with respect to the effectiveness of MMT policy. However, there is another decisive criterion, which is the monetary regime of a country. For example, a country could have a very credible monetary regime, but no policy space whatsoever, to use MMT. The US-Dollar based currency board of Hong Kong would be an example.

### **Currency regimes and fiscal space**



Source: Pavlina R Tcherneva (2016)

Thus, anything equal, there is an order of monetary regimes with different degrees of capability to use MMT policy. The greatest policy space is given for a monetary regime with a free float and without any other parallel currency. If the currency is pegged to another currency, the policy space will already shrink as the use of MMT could risk running out of the targeted foreign exchange band. Fixed exchange

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<sup>12</sup> Theoretically you could continue to argue with the above model for a given level of credibility. As the credibility is endogenous to monetary policy decisions like the change of the money supply, the model would not deliver meaningful results, though.

rates would reduce further flexibility. However, the government may make use of changing from time to time the targeted foreign exchange band. More inflexibility would be brought in with a currency board where central banks money supply would move with foreign exchange inflows and outflows. Full dollarization would deprive the central bank from almost any use of monetary instruments and thus also from MMT. The same is true for a member of a monetary union where each member country has handed over the responsibility over monetary policy to the common (assumed independent) central bank.

## 5. Conclusions for emerging markets and Ukraine

The above described model has been applied to a case which is valid only under certain assumptions: A consolidation of central bank and government accounts, a fully accepted monopoly of issuance of national money (thus no dollarization), and no default risk on national currency denominated debt. While the consolidation of central bank and government accounts is usually not applied in most cases, it could be imagined that in times of extreme stress (like war) a government might interfere into central bank policy and drop the political independence. The full acceptance of national money by all agents is quite common in most advanced economies and therefore realistic for those countries. However, this does not necessarily apply to many emerging economies. The same is true with respect to the default risk on national currency. We would consider this risk to be rather high for many developing economies and near zero for countries like the US or United Kingdom. In emerging markets, all sectors (state, enterprises, banks, households) have often significant liabilities in foreign currency, which complicates the picture further. Especially the state cannot print a money that he does not issue.

The most critical point in many emerging markets is the MMT-assumption that there is a monopoly of national money used in the economy. Instead, in many emerging economies foreign currencies play a decisive role competing intensively with the national currency, which makes capital movements and foreign exchange movements much more volatile. One way to encounter this would be to have strict capital account restrictions. This, however, would work only at the cost of less capital inflows not only of short-term money but also long-term capital. Lower growth might be the consequence.

Cryptocurrencies could add to the problem of the national currency not being accepted as the only to be used currency at home. Both, Dollarization and more widely used cryptocurrencies diminish the effectiveness of monetary policy.

MMT is right that under certain circumstances, and only temporarily, the fiscal leeway is bigger if the government takes into account that some instruments of the central bank can also be used fiscally. This has been done during the financial market crisis of 2008/2009 in the United States and many other countries, to rescue banks. It seems that central banks especially of advanced economies are able to act on behalf of the government without losing the confidence of their people.<sup>13</sup> However, the precondition for this to work seems to be a track record of a credible policy best shown in low inflation and low foreign exchange volatility. Emerging markets like Ukraine lack this credibility still, and are plagued by high and volatile inflation. Thus, building up a track record can provide a country with more fiscal leeway in the future. Obviously, this fiscal leeway has to be used with much care as credibility can be lost fast again.

In addition, a flexible foreign exchange regime is precondition to make use of more fiscal leeway as otherwise (for example in the case of a currency board) monetary policy is out of control of the state.

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<sup>13</sup> There is a debate if the populism arising in many advanced economies is the result of central banks putting their credibility at risk by engaging fiscally. Especially in Germany the discussion goes in this direction. On the other hand, in Southern European countries the discussion goes vice versa: should the ECB have used more of its fiscal space to avoid depressions like in Greece? Then, they argue, populism would have had less of a chance to gain such significance.

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