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Target Risks without Euro Exits



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Jens Weidmann (2018)

“Additional central bank money is created when the central banks grant credit to solvent banks against collateral or, for example, buy government bonds.

The questions here are:

Are the securities sufficient? Are the banks sufficiently solvent? Are the states whose bonds are being bought creditworthy? That is the core of the monetary risks”.

German Council of Economic Experts (2018),
p. 186, Box 6

“As long as no member state leaves the euro area, the TARGET2 claims are not subject to any default risk”.

The Bundesbank’s Target claims arose as a result of its enforced lending to other European central banks based on Eurosystem rules. Today, it is undisputed that these claims are at risk if Target debtors leave the Eurosystem. But what about the Target risks if the euro continues to exist with all members? This article shows that Target balances imply real risks for creditor countries even if no one leaves, and it presents various ways of limiting the balances. These limitations would not impair the functioning of the monetary union and the common capital market; in fact, quite the opposite is true.

PRELIMINARY REMARKS: EXIT RISKS AND CREDIT QUALITY OF TARGET BALANCES

In the summer of 2018, there was an internal debate, moderated by Carl Christian von Weizsäcker, among a large number of economists about the Bundesbank’s Target claims, sparked by these claims hitting almost 1,000 billion euros (976 billion) by the middle of the year. The central issue was the view that the Target balances of national central banks (NCBs) were irrelevant clearing items rather than credit. It had been claimed that nothing would happen if these balances were cancelled after a country left the Eurosystem.¹

¹ The discussion took place under Chatham House rules. As a result, we can only report on the content, insights shared and points raised during the discussion, but cannot link individuals to them. We only name individuals here if they have published their opinion. In this context, please see the controversial discussion of the problem

This position has now proven untenable, as the discussion has clarified two key points: firstly, Target balances are not irrelevant clearing items, the cancellation of which would have no consequences for the other countries if one member state were to withdraw from the Eurozone:

Statement I. Target liabilities imply an exit risk because, in exchange for Target claims, goods and assets like shares, real estate and domestic bank accounts have come into foreign possession, and marketable claims from existing debt relationships have been returned to the debtors. If a debtor country exits or the euro breaks up, the creditor countries will presumably never be able to realise countervailing transfers of such goods and assets.

Secondly, it emerged that Target balances do indeed measure loans between NCBs, a fact that had often been denied, because the net payment orders between NCBs reflected in the balances implied an opposite public capital flow between the NCBs, much like any payment order between private banks within a country implies an opposite private capital flow from the bank carrying out the order to the bank making it. Since the counter-directed public capital flow between the NCBs resulting from cross-border payment orders does not imply the transfer of existing assets (e.g. NCBs’ bank deposits with the Eurosystem, which are non-existent) between these NCBs, the NCBs grant each other overdraft credit by carrying out the transfers.

Statement II. The Bundesbank’s Target claims result from the granting of credit through the Eurosystem to other central banks, which is implied by the rules of the Eurosystem. Therefore, it is not only right, but also necessary in terms of properly informing the public, to speak of ‘Target credit’ or ‘overdraft credit’ which other central banks have obtained from the Bundesbank and other central banks with surplus balances via the Eurosystem.

It is true that, in the event of a cancellation of the Target debt of an individual country, the consequences for Germany are independent of the level of German Target claims. Germany would always participate in the defaults to the extent of its ECB capital share. Thus, it is particularly important, as far as limited default scenarios are concerned, to focus on countries with large Target liabilities. Nevertheless, one must reckon with the fact that Germany’s high Target claims in a default scenario would lead to the demand that Germany should participate disproportionately in the defaults. For this reason – and not only because of the risk of the Eurozone breaking up as a whole – the high level of German Target claims represents a special political risk for the Federal Republic of Germany.

by Hellwig (2018), Sinn (2018a, 2018b and 2018c) and Westermann (2018). See Sinn (2014) for a general discussion of the issues involved, and Sinn and Wollmershäuser (2012) for an original discussion of the Target problem in a balance-of-payments framework, see also Homburg (2012).

We are aware that public authorities often use pacifying language when communicating Target risks to avoid upsetting the public. For example, it is said that Target balances are ‘only symptoms’ of deeper problems that represent the actual risks. There is not much to say about such semantics, except that they are nebulous and we do not intend to get involved in this discussion.

The so-called banknote liabilities merit a further preliminary remark. Like the Target balances, disproportionately high and low cash disbursements by NCBs imply additional liabilities and claims booked on balance sheets.² If a NCB issues a disproportionately large amount of banknotes, the assumption (which cannot be directly verified, of course) is that the extra cash moves from its home state to other countries, where it is used to acquire goods and assets. For this reason, the German Target claims must be netted with the German liabilities from a disproportionately high amount of banknote issues, which amounted to 379 billion euros by mid-2018. This way of booking the extra banknotes issued is economically advisable if the hypothesis that it actually goes to other countries is correct. It does not, of course, apply under any other circumstances. In this article we assume that this hypothesis is correct in order not to complicate the situation excessively and to focus on the far more important Target issue.

TARGET RISKS WITHOUT EURO EXITS: OUR FINDINGS

We are concerned here with the role of Target balances in the collapse of a national payment system that could lead to the insolvency of a national central bank. It has repeatedly been claimed in the press and elsewhere that Target balances between national central banks are not a risk for Target creditors if the euro remains unchanged.³ The German Council of Economic Experts (2018) also shares this view.⁴ It is also often argued that a central bank cannot become insolvent because it can fulfil its payment obligations at any time by printing money itself.⁵ Both allegations are false. The second is true in terms of external relations for the Eurosystem as a whole. However, it is

not true with regard to internal liabilities with NCBs, because these liabilities cannot be fulfilled through the creation of common money. As we will show, the insolvency of a NCB in the Eurosystem is possible if it has Target liabilities and is itself liable for losses from money creating credit, and is thus unable to pass these losses on to other NCBs. As we will show, self-liability (no risk sharing) is the rule under the Statute of the European System of Central Banks (ESCB) and of the ECB. It also follows from the conversion of refinancing loans to emergency liquidity (ELA) in a crisis, such as that implemented in 2012 to protect the other central banks from the Greek state’s insolvency. The following statement is proved in this article:

Statement III. According to the Statute of the ESCB and of the ECB, money creation credits of a NCB are not normally subject to international risk-sharing. Indeed, the absence of risk sharing protects NCBs against having to bear the potential losses of other NCBs, provided that there are no Target liabilities and no banknote liabilities, as each national central bank lends out as much money as is needed for domestic circulation. However, if the Eurosystem’s money creation credit is relocated to a NCB affected by a financial crisis in order to offset or enable liquidity outflows to other countries, the other NCBs are exposed to a risk of losses equal to the sum of the resulting Target and banknote liabilities of the NCB concerned – despite the formal exclusion of risk sharing. If, exceptionally, formal risk sharing is agreed, there will be potential losses beyond the Target and banknote liabilities.

In this context, we refer to money creation credit as the sum of all measures that put central bank money into circulation in the broadest sense, i.e. not only refinancing loans of the usual kind, but also purchases of securities, including purchases under the PSPP programme and under the ANFA agreement. We also include ELA loans. The sum of the money creation loans is therefore equal to the monetary base (M0).

RISK SHARING AND LIABILITY IN THE EUROSISTEM

In order for the reader to understand our analysis, we must first address issues of risk sharing and liability in the Eurosystem. In principle, under the Statute of the ESCB and of the ECB, instead of risk-sharing, NCBs themselves are held liable for their own operations. In concrete terms, this means that NCBs retain the income from assets acquired with their own central bank money (returns from refinancing loans and acquired marketable assets) and bear the losses from the acquisition of such instruments themselves. Only in exceptional cases can NCBs hope to mutualise individual, well-defined losses if the Governing Council of the ECB explicitly decides to do so. This follows from Sections 32.2 and 32.4 of the Statute of the ESCB and of the ECB, or Eurosystem for short:

“32.2. The amount of each national central bank’s monetary income shall be equal to its annual income

² See, e.g. Weidmann (2018) or Sinn (2014 and 2018b).

³ See, for example, Beermann (2018). A similar view is held by Krahen (2018).

⁴ The Council of Economic Experts quotes Whelan (2017), who, in a paper for the EU Commission, qualifies his previous remarks from 2014 (Whelan 2014) and confirms that Target balances are associated with real default risks for creditors. However, Whelan’s analysis also focuses on the case of risks arising from a withdrawal from the euro. At the time, Whelan was criticised and contradicted by Ilzetzi (2014) and Westermann (2014). Westermann (2014, 117) also accused the author of adopting the central points of Sinn and Wollmershäuser’s (2012) analysis in the correct parts of his essay and appropriating these points for himself, subsequently attributing statements to Sinn and Wollmershäuser that they had not made in order to be able to refute them (e.g. the assertion that the Target deficits explained current account deficits and were therefore correlated with them).

⁵ According to Hellwig (2018) criticising Mayer (2018), who made this assertion.

derived from *its assets* held against notes in circulation and deposit liabilities to credit institutions. These assets shall be earmarked by national central banks in accordance with guidelines to be established by the Governing Council.

[....]

32.4. [...] The Governing Council may decide that national central banks shall be indemnified against costs incurred in connection with the issue of banknotes or *in exceptional circumstances for specific losses arising from monetary policy operations undertaken for the ESCB*. Indemnification shall be in a form deemed appropriate in the judgment of the Governing Council; these amounts may be offset against the national central banks' monetary income" (Italic by us).

However, the Governing Council deviated from the principles defined in this way in several individual decisions, which were unfortunately not published in detail, in favour of a mutualisation of risks, leading to the following statement by a group of ECB authors in 2017 (Alvarez *et al.* 2017, 55):

"As a rule, income *and losses* from decentralised monetary policy operations conducted by the Eurosystem are shared. This is the case for all currently active programmes apart from the PSPP for which only profits and losses on ECB holdings and EU supranationals are shared" (Italic added by us).

However, this statement by the ECB authors is contradictory in itself, as the exception mentioned here, namely the repurchase of government securities by the respective NCBs within the framework of the QE and Public Sector Purchasing Programme (PSPP), which has been running since March 2015, amounted to 1.9 trillion euros at the beginning of November 2018 (see also Graef 2018; Kaden 2018). By contrast, the central bank money supply, and thus the total volume of money creation credit, amounted to 3.2 trillion euros at that time. In purely quantitative terms, therefore, what is defined as an exception in the words of the ECB authors, contradicting the Statute, already corresponds to over half of the money creation credit provided by way of purchasing government bonds under the PSPP.⁶

In addition, purchases of corporate bonds under previous purchase programmes (CBPP1 and CBPP2)⁷ as well as ELA and ANFA loans, which amounted to hundreds of billions of euros, are also explicitly excluded from risk sharing. In this respect, the statement by the ECB authors expresses wishful thinking at best.

⁶ The total volume of the QE programme was 2.6 billion euros and that of the PSPP, which is part of it, totalled 2.1 billion. On the nature of the programme, see <https://www.ecb.europa.eu/mopo/implementation/omt/html/pspp-qa.en.html>.

⁷ See Alvarez *et al.* (2017), p. 55, Footnote 65.

Neither legally nor empirically can it be said that risk mutualisation is the normal case.

ELA stands for Emergency Liquidity Assistance and describes refinancing credit that a NCB may issue at its own risk and, within the framework of the Eurosystem, according to its own collateral rules to the commercial banks in its business area, which, in turn, use them to finance local states and companies.⁸ The decision to grant such credit is not taken by the ECB's Governing Council, but by the individual NCB of a member state. However, the Governing Council has the right to prohibit this credit if at least two-thirds of the votes in the Council are in favour. During the crisis, up to 251 billion euros (June 2012) of ELA loans were probably granted by the crisis countries of Southern Europe and Ireland.⁹ Before Latvia's accession at the turn of the year 2013/2014, these countries had one vote more than one third in the Governing Council, and could therefore not be prevented from obtaining ELA loans from the common purse.

ELA loans have a special role to play in a crisis, insofar as Greece's financial problems in 2012 and 2015 have shown that they are the relevant source of finance for the national financial system in the event of a capital flight, which results in a loss of liquidity with corresponding Target balances. Shortly before the peak of the euro crisis, on 28 February 2012, the ECB's Governing Council asked Greece to switch even its normal refinancing loans to ELA in order to protect the other central banks of the Eurosystem from a default on Greek refinancing credit (European Central Bank 2012; Sinn 2015b).

ANFA stands for Agreement on Net Financial Assets. This refers to an agreement between the NCBs concluded in principle in 2003 and specified in 2014 to limit the investment business that NCBs conducted on their own accounts and for the benefit of their mostly public owners. After this kind of business for the NCB's own benefit was discovered in 2015 by a Berlin-based doctoral student (Hoffmann 2015), the 2014 agreement was published in 2016 (European Central Bank 2016b; Deutsche Bundesbank 2016). Prior to the agreement, the NCBs of the Eurosystem had created 600 billion euros of money outside the general monetary policy programme by autumn 2011. They had bought up asset portfolios for the benefit of their respective national owners with the joint money they had created themselves, just as the sovereign wealth funds of Norway, Singapore, Hong Kong and the Gulf states have done for a long time. The Bundesbank was not involved and subsequently even held negative ANFA positions by absorbing money and giving private commercial banks claims against itself.¹⁰ One of the banks that made good use of the opportunities offered by the ANFA agreement was the Banca d'Ita-

⁸ See Sinn (2014), p. 169 n. In Sinn (2015a), p. 377–385, the Target risk without exits if states declare insolvency and apply for ELA funding is discussed. See also Sinn (2018b), p. 32 n.

⁹ See *ibidem* p. 232, Footnote 74.

¹⁰ Deutsche Bundesbank (2016), Figure on p. 94.

lia. According to Hoffmann, the government securities that it acquired under this agreement alone were worth 105 billion euros. With its ANFA agreement, the ECB tried to cap this form of independent money creation, but Italy nevertheless had 114 billion euros in March 2018, Greece 42 billion euros, Spain 35 billion euros of ANFA money creation credit, while even France had 27 billion euros. At that time, ANFA credit totalled 281 billion euros gross, with the ECB's head office itself participating to the tune of just under 6 billion euros.¹¹

INTEREST POOLING DOES NOT IMPLY RISK SHARING

Notwithstanding the exclusion of joint liability for the above-mentioned money creation credit, the interest income of the NCBs is pooled and then redistributed to these NCBs in proportion to the size of the respective country. Article 32.5 of the Statute states as follows:

“32.5. The sum of the national central banks' monetary income shall be allocated to the national central banks in proportion to their paid-up shares in the capital of the ECB [...]”.

At first glance, pooling seems to contradict self-liability and imply risk sharing. However, appearances are deceptive, because the interest to be paid into the pool is not necessarily the actual return. Instead, the proceeds from PSPP, ELA and ANFA assets are fictitious returns that result from multiplying the main refinancing rate by the corresponding expenditure on asset acquisition, i.e. the money creation credit issued. Payments equalling these notional earnings must be transferred to the pool regardless of whether or not the money creation credit is properly serviced by the debtors. Conversely, the NCBs may retain the surplus of real income over the main refinancing rate that they earn on the acquired assets and distribute it to the respective national government.

This point has long been unclear to some economists. For example, it was claimed that the respective NCBs could themselves retain all of the returns on the ELA loans they had granted in their entirety, and because this was the case, the other central banks would not lose anything if these loans were not serviced, effectively following the logic that you cannot lose what does not belong to you in the first place (Hellwig 2015a and 2015b). A discussion of the facts among German economists, the beginnings of which are documented on the internet platform *Ökonomenstimme* – see Fuest and Sinn (2015 and 2016) – and which was subsequently continued in the aforemen-

tioned internet discussion circle chaired by Carl Christian von Weizsäcker, has in the meantime, however, clarified the interpretation of this issue. The Bundesbank has also been helpful in presenting the factual accounting procedures based on internal, partly unpublished decisions by the ECB Governing Council. We quote here from the Bundesbank's statement to ourselves:¹²

“The calculation and netting of monetary income arising from Eurosystem monetary policy operations pursuant to Article 32 of the Statute of the ESCB shall be subject to the specification laid down in Article 32 (6) and (7) of the Statute of the ESCB, which were adopted by Decision of the ECB of 25 November 2010 on the allocation of monetary income of the national central banks of member states whose currency is the euro (recast) (ECB/2010/23) (as last amended by Decision ECB/2015/37). *These have the effect that a NCB must include income from an ELA credit in the distribution of monetary income at the level of the main refinancing rate*” (translated with italic added by the authors).

As the Bundesbank informed us, the interest that a NCB must deliver to the interest pool is calculated by adding returns at the level of the main refinancing rate on the ELA loans to the returns from normal monetary policy operations. As a result of this addition, ELA loans, as well as ANFA loans and PSPP securities, for which a slightly different calculation method is used, ultimately result in payments being made to the interest pool at the main refinancing rate instead of their actual returns, from which all are serviced pro rata.

INTEREST POOLING AND THE INTEREST ON TARGET BALANCES

Interest pooling therefore does not serve the purpose of risk sharing. Rather, it is explained by the desire to allocate interest income resulting from a disproportionate national issue of money creation credit to other NCBs that have granted relatively little credit of this kind. As we will see, the interest on the Target and banknote liabilities are a manifestation of this endeavour.

According to the accounting system of the Eurosystem, a NCB grants money creation credit:

- (1) To issue bank notes in proportion to its size (statutory bank notes);
- (2) To also disproportionately issue banknotes, which is recorded as a banknote liability to the Eurosystem because it is assumed to flow to other euro area countries;

¹¹ In net terms, after deduction of the Bundesbank's negative ANFA balances, this figure was smaller, but there is no point in looking at net figures when critically examining the asymmetrical provision of money creation credit.

¹² *Explanations Regarding the Question of Whether the Interest on ELA Credit Can Be “Collectivised”*, Bundesbank, letter to the authors dated 13 January 2016.

- (3) To replenish the minimum reserves of commercial banks;
- (4) To enable commercial banks to form deposits with the NCB in the broader sense, i.e. including the deposit facility; and
- (5) To compensate for the liquidity absorption resulting from net payment orders of commercial banks to other countries, as measured by the Target liabilities. (Such net payment orders lead to the withdrawal of central bank money in the country commissioning the payment orders and to the creation of new central bank money by the NCB executing the payment order.)

In fact, the interest on money creation credit to be paid into the pool by a NCB is calculated by allocating assets in its possession to the sum of these items, with the money needed to replenish the minimum reserves being lent without interest. ELA, ANFA and government bonds purchased by the national central banks under the PSPP participate, as explained above, in the pooling of interest income at the main refinancing rate, as a result of sophisticated internal calculations, irrespective of their actual income. Since the aggregated interest income is transferred back to a single NCB in proportion to its size (according to the capital key), this implies that interest on Target liabilities (5) and disproportionate bank note issues (2) is paid. The task of interest pooling is to burden a NCB for having issued more local money creation credit than central bank money is circulating in its territory, because part of the money created:

- Has physically flown to other countries (banknote liability, 2) or
- Has been withdrawn locally and recreated by another NCB upon carrying out net payment orders (Target liability, 5), without this other NCB, as would be customary in a closed economy, accruing interest-bearing claims against the local commercial banks for the money issued.

In proportion to its Target liability and its banknote liability, a NCB has more own interest income than if it had granted only those money creation credits necessary to endow the local economy with sufficient liquidity. Accordingly, other NCBs, in whose territory outside money (created by fulfilling payment orders from abroad or came in physically *via* bank note imports) is circulating, have an own interest income that is falling short of the interest income they would have generated had they lent out all central bank money to local banks themselves. *It is exactly these surplus interest returns of the Target and banknote debtors and the missing interest returns of the respective Target and banknote creditors that are compensated for by pooling the returns. Given the sum of all money creation credits of the entire Eurosystem, the interest income of a NCB is thus independent of the Target balances and the*

balances from a non-proportional banknote disbursement, and it is precisely for this reason that a shift in the money creation credits between NCBs means that interest is paid on these balances. Although money creation credit, and thus interest income is shifted between the NCBs, each individual NCB still receives as much interest via pooling as would have been the case without such a shift. Unfortunately, this is often overlooked by those who claim that the Target balances do not earn interest. In fact, interest pooling ensures that interest on the Target balances and the balances from disproportionate banknote issues is paid. This interest immunizes the national interest income from money creation, the so-called seignorage, against shifting money creation credits between countries to compensate for shortages of private funds.

Interest pooling only implies no interest on the Target and banknote liabilities if the Target and banknote liabilities arise from an international transfer of surplus reserves, which commercial banks sustain with their respective NCBs, that is not replenished with new money creation credit (4). But this is the case of a liquidity glut with unnecessary local liquidity, in which there is no interest anyway. We will not consider this case here. Instead, we assume that Target and banknote liabilities, which by definition imply a transfer of liquidity from one country to another, are always accompanied by corresponding changes in national money creation credit.

JOINT LIABILITY DESPITE DISCLAIMER AND THE ROLE OF TARGET BALANCES

Although the principle of risk sharing is not provided for in the Statute of the Eurosystem and is excluded by various measures that are intensified during the crisis, risk sharing can nevertheless be enforced if a NCB has issued disproportionately large amounts of money creation credit, while liability is limited due to a lack of performing assets. This is precisely the case (Statement III), as we now want to demonstrate, when the assets of a NCB fail and it has a cash obligation and/or a Target obligation *vis-à-vis* other central banks. In such a scenario, banknote and Target liabilities do indeed constitute a risk for other central banks; even if the euro continues to exist with all countries and these liabilities formally still apply.

We call the Target liability T . It is defined as the sum of the net loss of liquidity in the form of cross-border payment orders for the purpose of acquiring assets and goods and also for the purpose of repaying debt. The banknote liability B is defined as the disproportionate issuance of banknotes in excess of what would be implied by the size of a country as measured by the respective ECB capital key for paid-in capital. As explained above, we assume that the banknote liability measures a net physical outflow of cash to other countries, which serves purposes similar to cross-border payment orders.

The evidence of Statement III can be presented in several steps, as specified in below by letters. It is based on the assumption of the interest pooling described above with insufficient collateral. The steps of proof include:

- a) Let us first assume a symmetrical situation in which a single country A, whose size share (capital key) is α , adds as much interest income into the interest pool as it receives back. All NCBs grant money creation credit to the commercial banks in their respective territories in proportion to their size. The sum of all money creation credits and thus the volume of central bank money is G . In the amount of the legal minimum reserves M , these credits are interest-free. Loans in excess of the minimum reserves are subject to interest at the main refinancing rate r . Then $Z = r(G - M)$ is the sum of the interest receipts from the monetary policy operations of all national central banks. Country A transfers the amount αZ to the pool and receives the same amount back.
- b) In the next step, it is assumed that all assets of NCB A and the collateral securing them are at risk of default due to a national financial crisis and that the ECB's Governing Council will convert the entire money creation credit already granted to ELA as it did in the Greek crisis to protect the other NCBs (insofar as this credit did not already consist of ELA, PSPP, ANFA or other types of assets whose returns are not subjected to risk sharing). The exception to risk-sharing in these forms of money creation credit was, as explained, not realised in the Eurosystem by suspending interest pooling, but by imposing an obligation to transfer interest at the main refinancing rate to the pool, irrespective of which interest rates the corresponding assets actually deliver. The obligation does not expire in the event of a default of the assets. Let r^* be the actual interest rate that the money creation credits issued by country A generate on a permanent basis, and r still the main refinancing rate that we assume the other central banks will still achieve. In our example, central bank A now has to pay interest of $r(G - M)$ into the pool, although it generates $\alpha r^*(G - M)$, and receives the same amount back, i.e. $\alpha r(G - M)$. If the assets of central bank A fail, $r^* = 0$ will hold forever. The central bank now can just barely meet its payment obligations in the Eurosystem by giving up the interest reflow from the pool forever and never again having an interest income itself, which it can transfer to its owner, usually the respective nation state.
- c) Now we assume that there will be outflows of liquidity, whether caused by a flight of capital or by the fact that the local money creation credit is made available on more favourable terms than the capital market requires for similar private credit.

The liquidity outflows either lead to payment orders to other countries, and thus give rise to a Target liability T , or they take the form of physical cash transports, as measured by a disproportionate banknote issue B , i.e. the banknote liability described above under (2). It is assumed that the loss of liquidity will be compensated by the NCB through new money creation credit E in order to prevent local money circulation from drying up. The new money creation credit, typically new ELA credit, but possibly also credit in the form of new purchases of government securities such as in the PSPP programme, is equal to the sum of the Target liability and the liability from a disproportionate issue of banknotes:

$$E = T + B$$

Central Bank A must now transfer further interest $r(T + B)$ to other NCBs, and it must do so permanently and in net terms, i.e. in addition to the interest return $\alpha r(G - M)$ from the pool it already had to renounce. But it cannot do so if it has lost all of its assets. In this respect, the sum of the Target liability and the banknote liability by NCB A now measures the present value of the potential loss of the other NCBs due to a collapse of the financial system in country A. This ends the proof.

COMMENTS

Comment 1

The risk of loss exists with regard to the contractual agreement between the NCBs. NCB A must pay interest on $T + B$ to other NCBs, but cannot do so. However, the risk of loss also exists in comparison to a situation without the liquidity outflows as measured by $T + B$, because these outflows mean that the commercial banks operating in the jurisdictions of the other NCBs use the liquidity flowing to them, which they do not need, to repay their existing refinancing credit because this reduces their interest obligations. This in turn means that the other NCBs lose $r(T + B)$ of income for which they can no longer get a replacement *via* interest pooling.

This mechanism is by no means irrelevant, as the conditions during the crisis years 2012 and 2013 in Germany and Finland showed. At that time, the entire money creation credit of the NCBs of these two countries had been displaced by the outside money flowing in from other countries, because the Target claims of the two NCBs had reached the level of the total stock of base money issued there (central bank deposits, minimum reserves, statutory holdings of banknotes (1) and disproportionate banknote issues (2)). At that time there was only central bank money left in these countries, which the NCBs of Germany and

Finland had had to create by way of fulfilling payment orders from other NCBs.¹³

Comment 2

If NCB A, contrary to what was previously assumed, still has interest bearing assets that are not in default, the risk of the other NCBs is smaller than $T+B$, because the income from these assets can be used to pay at least some interest on $T+B$. However, this is hardly to be expected when the financial system in A collapses. Even gold reserves would not really help, because a NCB does not have to transfer capital gains or fictitious returns on gold to the pool. In principle, it should be possible to force a NCB to sell its gold to feed the pool, but whether there is a legal basis for this option is unclear.

Comment 3

If, contrary to our assumption, the earnings of some of the assets of NCB A are subject to international risk sharing, the potential losses of the other NCBs will be greater than just $T+B$. Not only do the other NCBs permanently miss out on interest on this sum, because to this extent their own money creation credit has been shifted to A, without them now receiving the corresponding income from A *via* interest pooling. Rather, they now have to transfer part of their remaining income from their own issues of money creation credit to A because of the risk sharing. If a measures the size share of central bank A (of the Eurosystem's paid-up capital), then the other central banks may lose the share $1-a$ of the income subject to risk sharing in addition to the income on $T+B$.

Comment 4

One might think that the risk of loss that we have calculated cannot exist simply because the respective national government now has to support its central bank A because it has an institutional liability (*Anstaltslast*). However, the EU treaties do not provide for recapitalisation of the NCBs in the case of asset losses, and it is cheaper for country A to let its own NCB go bankrupt and set up a new NCB with new equity capital than to revive the old one, given that the additional funds injected by the state would first have to be used to meet the NCB's Target and banknote liabilities.

Of course, a surplus country like Germany would probably recapitalise its NCB if it were to lose its equity by writing off the German share of the Target and banknote liabilities of country A. This is not economically necessary, because the Bundesbank will probably still generate enough income to be able to gradually replenish its equity. However, in such a

case a loss to the full extent of the present value of the losses will nevertheless occur in terms of reduced profit distributions to the German federal budget, and because this is the case, Germany might prefer to recapitalise the Bundesbank right away with tax financed injections.

However, the same does not apply to the Target debtor countries. It is true, according to the German Constitutional Court (*Bundesverfassungsgericht*) and the ECB, recapitalisation may be necessary to ensure proper business operations of the Bundesbank.¹⁴ However, these are only opinions and not yet legally binding facts. In fact, there is a danger that the crisis countries will find ways to evade recapitalisation if push comes to shove. In such a scenario losses in the amount of the Target and banknote liabilities would be inevitable for the other NCBs.

It has occasionally been argued that the international community could now press country A to meet its payment obligations, as there would be no orderly political relations with the rest of the Eurozone otherwise. However, this view is very optimistic in view of the fact that in the case under consideration, a sovereign bankruptcy of A can be assumed. In such a case, Germany in particular can more likely expect that the collapsing country will counter the German claims with reparation claims, or other claims that have hitherto been kept under the table.

In such a case, it is more likely that the ECB's Governing Council will itself decide to recapitalise NCB A in order to avert its insolvency in accordance with Article 32.4 of the Statute by forcing the other NCBs to assume the losses. In this sense, both the plaintiffs' legal representatives and the EU legal representative, who had otherwise always represented the ECB's position, expressed themselves astonishingly unanimously at the hearing of the PSPP programme before the European Court of Justice on 10 July 2018.¹⁵ In this case, the other NCBs directly incur a loss in the amount of the Target and banknote liabilities.

SHOULD RISKS FROM TARGET BALANCES BE LIMITED, AND IF SO HOW?

If it is true that rising Target balances imply growing risks for creditors, then the question arises as to whether, and if so how, these risks can and should be limited. Potential measures include absolute limits on the Target balances or collateralisation, perhaps in the form of the NCB regularly transferring gold holdings equal to the increase in the Target balance to the ECB at the end of each year to secure the claims.

It is often claimed that free and uncollateralised Target balances are an indispensable part of the European Monetary Union; and that any limitation of these

¹³ See Sinn (2014), Figure 6.8, p. 207.

¹⁴ See German Constitutional Court (2017), Rn. 131, as well as European Central Bank (2016a), p. 25.

¹⁵ Own testimony by H.-W. Sinn who was present at the hearing.

balances would mean the end of a single monetary policy in the euro area. A euro in a Greek bank would then no longer be the same as a euro in a German bank under all circumstances.

The question, however, is why a euro should have the same value in all bank accounts of the euro countries, even if a NCB and the commercial banks of its jurisdiction can no longer be considered safe? For years, for example, the market value of deposits at Greek banks was ten to twenty percent lower than that of corresponding deposits at German banks, precisely because those Greek banks were perceived by the markets as less secure and the ECB was no longer willing to allow the Greek central bank to compensate the liquidity losses due to international payment orders by reprinting unlimited amounts of money. Thus, Greece was forced to impose capital controls on its commercial banks, which was equivalent to limiting the Greek Target balances. Things were temporarily similar in Cyprus. Although this situation revealed regrettable weaknesses in the EU's supervision of commercial banks and fiscal policy in the Greek speaking countries of the Eurozone, it did not undermine the existence of the euro itself or the rules of functioning capital markets; indeed quite the contrary was the case.

In fact, the limitation of Target balances, as was enforced by the ECB in Greece and Cyprus, is perfectly compatible with a single monetary policy. It is incompatible with the requirement that the same nominal interest rates and unlimited access to cheap central bank credit should apply throughout the monetary union, irrespective of country-specific risks. However, it is not the task of European monetary policy to create such a situation. Monetary policy is not intended to ensure that risk premiums converge across Europe, despite the fact that actual risks differ according to assessments by market participants. For if it does so, the effective, expected interest rates will differ, which must be calculated taking into account the default risk. In a market economy, the postulate of uniform interest rates can only meaningfully apply to the latter. Limiting the Target balances would lead to monetary conditions in a country approaching the upper limit becoming more restrictive and would push up interest rates there. The rise in interest rates would make it more attractive for private capital to flow into the country. So it is by no means normally the case that the country would be cut off from credit, loans to it would merely be properly priced.

It is true that, in extreme cases, capital markets may deny a country access to credit due to a loss of all confidence in its creditworthiness. In this case, the affected country would have to limit its expenditure on imports and impose the aforementioned capital controls to avoid net payment orders to other countries.

Normally, however, such a development would be unlikely, because the very presence of upper

limits would ensure that NCB make timely efforts to prevent net liquidity outflows through international payment orders by limiting the asymmetric national allocation of money creation credit at an early stage to curb the balances through rising national interest rates that induce capital imports.

The private capital that would be attracted by higher interest rates would flow into the country as a result of investment decisions by investors from all over the world, but it could also be triggered by international payment orders for any purpose, if these payment orders were to be carried out *via* private international payment systems instead of the public Target system. Such private payment systems have, in any case, enjoyed a great upswing in recent years. If these payment systems create private balances because net transfers from the Target deficit countries have to be absorbed, there is automatically a private capital flow back into these deficit countries, because the payment systems themselves already implicitly grant reverse private credit to the senders of the payment orders. It can be assumed that, in the case of long-term private deficits that can no longer be absorbed by the Target system because of capital controls, the transfer fees would be set in such a way that they would imply an adequate pricing of risks. However, as long as the Target credit is available indefinitely, international payment system operators will prefer to dump their private balances on the Target system, thus accessing public international credit that is available at below market conditions because it is secured free-of-charge by euro area taxpayers.

Critics of limiting Target balances also argue that these balances constitute an important form of liquidity insurance, especially in crisis situations. This may be the case, but an insurance against liquidity shocks for states already exists in the form of the ESM, which at least comes with conditionality and parliamentary control. Similar provisions could be made for the financial system. It would even be conceivable, under exceptional circumstances, to temporarily lift the upper limits for Target balances, but again under parliamentary control and possibly with conditionality. If the balances are secured by gold, this argument is groundless anyway.

Such claims certainly raise the question of why debtor states in particular should agree to such restrictions, as they benefit from the *status quo* of the unlimited availability of Target loans? But conversely, the question also arises as to why creditor states should accept the many other demands currently on the table for extended risk sharing and redistribution in the Eurozone? In the current negotiations over Eurozone reforms both measures to increase risk sharing and measures to limit risk are being discussed. Limiting the Target balances could be one of the risk mitigation measures adopted as part of the overall package.

FINAL REMARKS

So far, the Target topic has largely been played down by politicians and the media. This does not do justice to the real dangers of the present situation. The sums that have now accumulated in the Federal Republic of Germany correspond to roughly half of its net foreign wealth, which itself accumulated thanks to the export surpluses of previous years. This fact alone makes it unacceptable to trivialise the problem.

We are aware that Target balances are an issue which, given its complexity, is not well-suited to public political debate. However, it is precisely thanks to this veil of high complexity that high asset risks for the Federal Republic of Germany were allowed to accumulate without the timely activation of brakes. The fact that Target balances can lead to massive losses for creditor countries – not only when countries leave the Eurozone, but also if national financial systems collapse in countries that are still Eurozone members – is a threat that politicians cannot ignore.

The Target risks cannot be countered by pointing out that a collapse of a national financial system would result in so many other risks that the loss of parts of the Target claims would no longer matter. In fact, the marginal costs of Target losses are particularly high precisely when further losses in other areas are incurred, because funds are already lacking across the board.

The Target risks are also particularly problematic because they limit the scope for political action and force the surplus countries to keep them in check, at least apparently, by means of mutualising liabilities and redistributing tax revenues. The path to a European transfer union, *via* a chain of negotiations in which more and more mutualisation systems are demanded, is already mapped out if the Target balances cannot be limited.

As committed Europeans, who see no alternative to the progress of European integration, we do not want our analysis to be understood as a fundamental critique of the euro; and certainly not of European integration itself. On the contrary, we believe that continuously improving and correcting the systemic errors that emerge in the course of the unification process is the only way to successfully complete the integration process. We see the ultimately unrestricted extension of Target credits without parliamentary control, based solely on decisions by the ECB's Governing Council, as one such systemic error. It urgently needs to be corrected.

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