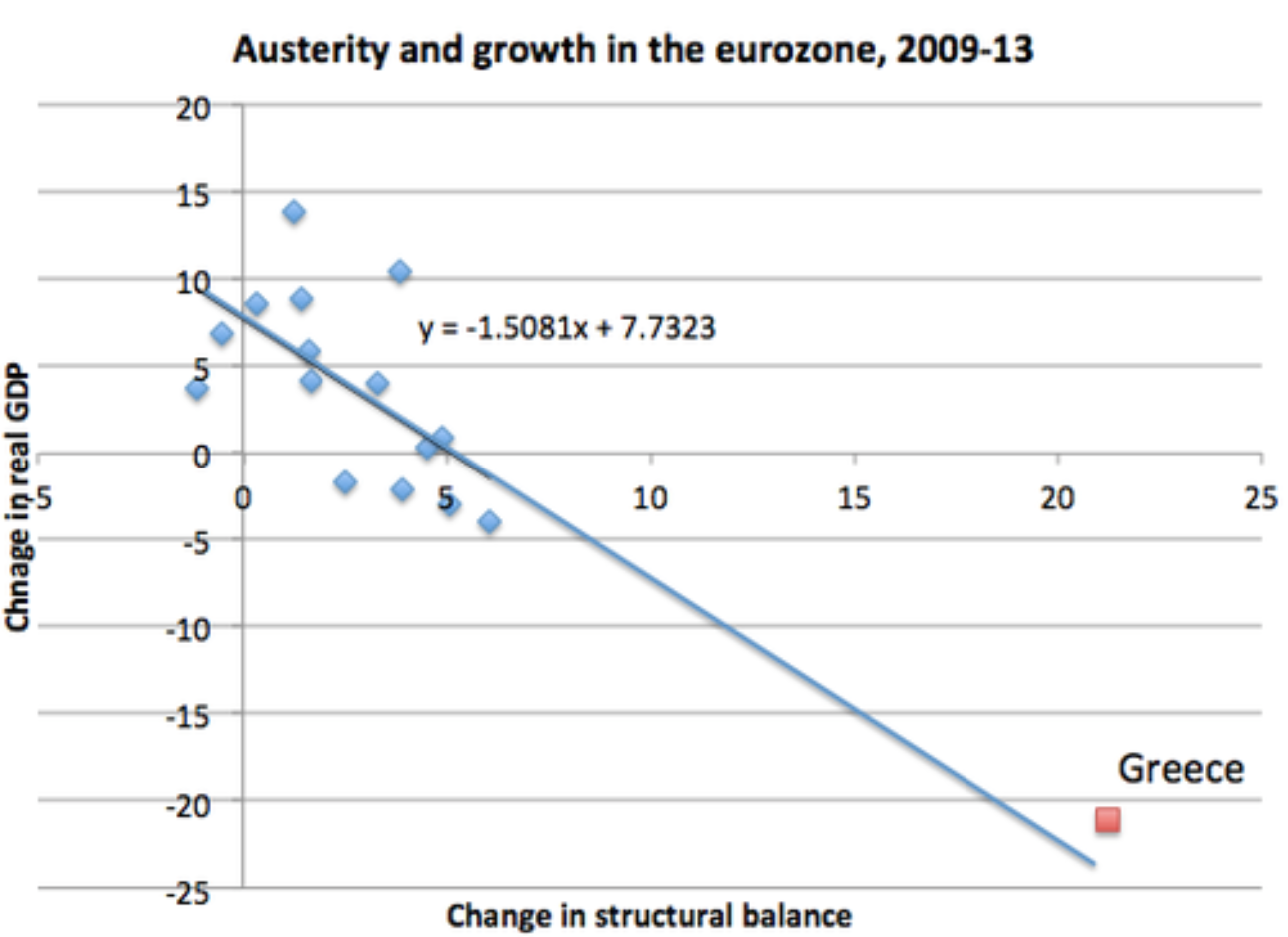
# “Fiscal Money” to End the Unending Crisis

Biagio Bossone and Marco Cattaneo[[1]](#footnote-1)

## Eight Years Past and the Crisis is Not Over yet

Eight years after the breakout of the European sovereign debt crisis, economic recovery in the Eurozone is still fragile and uneven. The policy response enacted under the rules governing the area has not only failed to recover growth in the peripheral countries; it has not avoided their slow descent into dangerously low inflation (“lowflation”), or outright deflation, either. Countries were forced into a period of severe austerity, in the expectation that this would improve public finances, restore confidence and revamp the economy. In fact, austerity caused recession, which caused further fiscal deterioration and still even more austerity, in a perverse cycle. The result is what Paul Krugman (2016) reflected in this very “eloquent” chart.



True, the inability of the governments to work together on an area-wide recovery effort, forced the ECB to change policy course and intervene to avert disaster (Bossone and Cattaneo, 2016). But while the ECB’s intervention did avert disaster, it showed the limitations of monetary policy in driving the economy off depression and deflation when acting alone.

Coherent with a view of macroeconomics that focuses mainly on the supply side of the economy, the rules followed in the Eurozone postulate a very limited role for discretional policies in managing the business cycle, and thus heavily constrain policymakers in addressing severely adverse contingencies.

Can this be reformed?

We are skeptical – to say the least – about the chances of a wide-ranging reform of the European Monetary Union (EMU) ever taking place, which would bring in significant change in its economic policy framework. Yet, we see the urgency of saving the EMU peripheral countries out of permanent stagnation. If a grand reform plan is unrealistic and exiting the single currency is not an option, a pragmatic and minimalistic reform program may address the two most pressing problems at the country level: lack of aggregate demand and inadequate competitiveness.

With this purpose in mind, we propose the introduction and use by national governments of a new policy instrument – “fiscal money” – to increase people’s spending power and reduce the cost of labor for enterprises. Section II introduces and discusses the concept of fiscal money, it identifies the objectives fiscal money allows to achieve, and describes its underlying economics; the section also explains why fiscal money is not a debt instrument and is consistent with EMU rules. Section III applies the concept fiscal money and designs a fiscal money program to the case of Italy; it then simulates numerically the outcomes of the program. Section IV explains why introducing fiscal money is a superior option to simply expanding the budget deficit. Section V concludes the article.

## Fiscal Money to Revamp Demand and Competitiveness

Our proposed solution starts from premising that a Eurozone member country intends to remain within the zone and its rules, and yet seeks to exploit its fiscal sovereignty within the limits set by the Fiscal Compact. At the same time, our proposed solution is flexible enough and may be used to facilitate the introduction of a new national currency in the event the country decided to exit the Eurozone.

We propose that countries facing stagnation and lowflation, having neither monetary sovereignty nor fiscal space available (as it would typically be the case of any largely indebted member of a monetary union), would introduce and actively use “fiscal money”.

We define **fiscal money** as

***Any claims, private or public, which the state accepts from holders to discharge their fiscal obligations either in the form of rebates on their full value (tax discounts) or as effective value transfers (payments) to the state. Fiscal money claims are not legal tender, and may not be convertible by the state in legal tender. However, they are negotiable, transferable to third parties, and exchangeable in the market.***

Fiscal money may be issued by a national state either in the form of a right of its holders to receive a tax rebate from a certain future date onward or as a payment instrument that may be used to settle payments of taxes or other financial obligations to the state, and which the state may use in turn to effect its own payments (provided that the payees agree to accept it). In any case, the acceptance of fiscal money as a payment instrument would be strictly voluntary. Also, while holders of fiscal money may at no time request the state to convert their holdings into cash or other types of assets, they are free to sell it to each other in exchange for the domestic or other currencies (or any other assets, goods or services) at a market-determined price.

### The Objectives of Fiscal Money

The value of fiscal money rests on its acceptance by the state as an instrument to discharge financial obligations to its favor.[[2]](#footnote-2) Based on the above definition of fiscal money, we propose the introduction of a specific type of fiscal money instrument, which we call the “Tax Rebate Certificate” or TRC.[[3]](#footnote-3) Originally denominated Tax Credit Certificate, the new denomination is introduced to avoid the misunderstanding that the word “credit” may inadvertently cause by conceptually associating the nature of the instrument to a debt obligation. As discussed below, the TRC **does not** raise or imply any financial obligation on the issuer.

Our proposal is articulated in three points:

* First, we propose to use the TRC as a demand-management tool, in particular in order to provide the demand support required by many Eurozone countries to exit the current situation of depression, liquidity trap, stagnation, lowflation and unacceptable unemployment levels.
* Second, we aim at realigning competitiveness inside the Eurozone so as to prevent the creation of the current account imbalances that have been one of the major factors behind the crisis.
* Third, the demand reflation to be implemented via the introduction of the TRC avoids increasing sovereign public debt levels and actually allows countries to achieve the goals of the Fiscal Compact, which they are not able to attain under the current policy framework, by steadily reducing government indebtedness as a percentage of national GDP.

### TRCs in Operation

The TRCs would be issued and allocated free of charge to a variety of recipients:

* A portion of TRC issues would go to employees, in order to increase their after-tax income. Allocations would be in inverse proportion to incomes, both for social equity purposes and to incentivize consumption.
* A portion of TRC issues would go to enterprises, in order to reduce their actual labor costs – on a unit basis as well as overall. Allocations would be proportional to labor costs, and thus act as labor-cost cutting devices, immediately improving competitiveness as any internal or external devaluation would do.
* A portion of TRC issues would be used to fund a variety of social expenses, including minimum vital income programs, unemployment benefits, and strengthening the public education system and the national health care system.
* A portion of TRC issues would (co-) fund public investments, including to prevent or to provide relief for earthquakes, flooding and other natural disasters.

Like government bonds, TRCs would trade in the financial market. Their discount would be close to that on a two-year zero-coupon government bond. TRC sellers are households and enterprises that need immediate liquidity; buyers are households, enterprises and any other entities that want to use them to save on future tax obligations. Financial intermediaries buy TRCs at a discount from those who want to sell them, and they either use them for future fiscal rebates or sell them at a lower discount and make a profit.

By cutting enterprise labor costs, heightened competitiveness would boost export and import substitution. This would generate more output and employment, and offset the impact of increased demand on the external trade balance.

In a depressed economy, with a large fiscal multiplier (see below), the spending stimulated by TRC issues increases output and employment. The two-year deferral provision for TRC redemptions allows the multiplier to deploy its effects and generate enough tax revenue to fund the fiscal rebates, thus keeping the deficit-to-GDP ratio from growing. In other words, by issuing TRCs, the government grants to the private sector immediate spending power, while facing deferred revenue shortfalls that would be recovered prior to TRC redemptions through the new revenues generated by GDP growth. Even under conservative estimates, the larger gross tax revenues following GDP growth would exceed the fiscal revenue shortfalls due to the tax rebates (see Section III.E).

Importantly, as TRCs are not debt (see Section III.C), the issuing government has no obligation to reimburse them, and thus it may not be forced to default o them. TRCs imply no risk to financial stability.

As a result of higher nominal GDP growth induced by TRC issuances, each TRC-issuing country would fulfill its commitments under the Stability and Growth Pact and Fiscal Compact, reducing its public debt / GDP ratio on a timely and consistent basis. Levels and allocations of future TRC issuances would be managed so as to stabilize each national economy, achieve satisfactory employment, and improve enterprise competitiveness. The latter would issuing countries to avoid incurring external trade imbalances due to higher domestic demand.

Essentially, the TRC proposal involves an inter-temporal resource transfer from the public to the private sector, through future tax rebates that can be liquidated in the market today (or at any time) at a discount. The liquidity so generated can be spent and support higher demand today. Increased spending, in turn, increases employment and output and generates the fiscal revenues needed to pay for the future tax rebates. Special safeguard measures would be activated in the event of fiscal underperformance (Section III.F)

### Are TRCs a Form of Public Debt?[[4]](#footnote-4)

According to European law, the TRCs are not debt instruments. Based on [EU Regulation 549/2013 of 21 May 2013](http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R0549&from=IT) (in particular, par. 5.05 and par. 5.06), they are non-payable tax credits and, as such, they are not subject to reimbursements. Also, according to the European System of Accounts 2010, issuing non-payable tax credits does neither originate a financial asset nor a financial liability since there is no money obligation binding a debtor to a creditor.[[5]](#footnote-5) Therefore, when TRCs are issued, they only represent a contingent liability for the issuing government, and should not be recorded in national accounts. They are recorded as reducing tax revenue only when they are effectively used to pay less tax in the relevant accounting period.[[6]](#footnote-6) In fact, the tax revenue reduction is only a contingent event. What matters, in the end, is the overall budgetary impact of TRC redemptions net of the higher tax revenues due to the expansionary effect of TRC issuances on GDP; if the latter effect were to exceed the former, the overall (net) ex-post budgetary impact would be positive.

### TRCs and the Fiscal Multiplier Effect

The effectiveness and sustainability of our TRC proposal rests fundamentally on the fiscal multiplier mechanism of Keynesian tradition, triggered by changes in domestic aggregate demand following TRC allocations. A key assumption of the proposal draws from the recent empirical literature showing with abundant evidence that the multiplier tends to take values considerably above 1 when the economy is in a depression or stagnation, as it is typically in a liquidity trap.[[7]](#footnote-7) Our projections suggest that with multiplier values above 0.8 the issuance of TRCs would not create any additional budget deficit.

Yet, while a value of 0.8 is relatively low as compared to recent evidence, a key question to address is how robust our proposal is to factors that might weaken the multiplier effect through leakages or crowding out effects. We identify three such factors: i) the increase in imports that is bound to accompany growing demand, ii) an increase in interest rates, similarly led by higher demand, and iii) an increase in risk premia on government bond prices, associated with market expectations on the budgetary impact of the TRC program. Let’s discuss them.

As regards the increase in imports, it will be offset by the increase in export and import substitution driven by improved competitiveness due to the labor cost reduction. The effect of such reduction is the same as that following an exchange rate devaluation on the relative cost of labor of domestic industries vis-à-vis foreign competitors.

The second factor – the increase in interest rates associated with growing demand – will be moderated, if not neutralized, by the large output gap, the persistent negative price growth trend, and the expected continuation in the Eurozone of an accommodative monetary policy stance, at least for the foreseeable future, assisted by the prolongation of unconventional measures until signs of a vigorous economic recovery set in.

The concern with the third factor is that the market uncertainty surrounding the initiation of a TRC program, in particular as regards its budgetary impact, might trigger higher risk premia on government bonds. Recent evidence shows that fiscal multipliers tend to be weaker when the fiscal position of governments is weak (Huidrom et al, 2016). In particular, although multipliers are typically found to be generally larger in recessions, they are smaller when debt is large, even during recessions, relative to what they would be if government debt were lower. This result implies that TRC programs in countries with large debt would be less effective than assumed.[[8]](#footnote-8) This type of uncertainty should not affect our proposed TRC program, thanks to the provision of fiscal safeguard measures that would trigger corrective action in the event of fiscal underperformance (Section III.H). The safeguard provision would resolve the ex-ante market uncertainty, and prevent possible increases in interest rates due to higher risk premia.

## Designing a TRC Program: An Application to Italy

### The Case of Italy

We here outline the macroeconomic impact projections of a TRC program for Italy, the largest Eurozone member state still suffering from a large output gap as well as from inadequate competitiveness. Effective TRC programs may be similarly devised for other Eurozone countries.

Italy has long been featuring a high level of public debt (as a ratio to GDP) and a high level of private sector savings. This is not surprising, since both variables tend to move in tandem. Public debt is the accumulation of yearly public deficits. If the state spends more than what it collects, and does not finance its deficit with money creation, its corresponding debt obligations find their way into the portfolios of private sector agents, typically in the form of government bonds. Private sector agents may be residents or foreigners. In the case of Italy, with a net negative foreign asset position of about 23% of GDP and on a decreasing trend, the holders of public debt are mainly residents. A reduction of public debt, say in the form of debt restructuring or write-offs, would thus depress domestic private sector wealth, with negative consequences on consumption, investment, output and employment. As a result, GDP growth would suffer and undermine the very improvement of the debt-to-GDP ratio that was initially sought for.

The current fiscal policy architecture of the Eurosystem (the Fiscal Compact) establishes that Eurozone members commit to i) balancing their budget (on a cash basis), and ii) gradually reducing their gross public debt / GDP ratio (to below 60%). At the same time, the ECB (under its Outright Monetary Transactions – OMT – program) extends an unlimited guarantee on national public debts conditional on member countries complying with Fiscal Compact targets or taking credible corrective action.

The Fiscal Compact is in fact proving impossible to implement as the fiscal adjustment measures aimed to reduce the debt-to-GDP ratio under recession weigh more heavily on GDP, causing it to decrease more than proportionally vis-à-vis nominal debt (due to a fiscal multiplier larger than 1).

Fiscal money can resolve the *impasse*, since:

1. It is possible to stimulate demand and improve industry competitiveness by issuing instruments whose value rests on their acceptability by the state as claims to future tax rebates. With the issuance of fiscal money, there is no need for the ECB to guarantee national debts, since a state issuing fiscal money may not be forced to default on its associated obligation (which is an obligation to reduce taxes not to repay debt).
2. The use of fiscal money leverages the extremely large unutilized output capacity currently existing in several countries of the Eurozone. In Italy, the real GDP of 2016 is 9% per cent (equivalent to € 150 bn euros) less than its 2007 level. The recovery of pre-crisis levels, made possible by fiscal money and its expansive action, generates the fiscal revenue needed to offset the revenue shortfalls deriving (all else equal) from fiscal money redemption.
3. Higher output and inflation help achieve the fiscal targets, while restoring the domestic economy.
4. Fiscal money allows countries to take further action to stabilize first, and then reduce, their public debt-to-GDP ratio, even in the face of negative contingencies. For example, part of the debt could be refinanced with the issuance of longer-term fiscal money instruments or by offering holders to postpone the redemption of their maturing fiscal money in exchange for an increase in the nominal value of their fiscal money claims.
5. In extreme cases, non-voluntary measures could be enacted. Examples are tax rises compensated for with new fiscal money issuances or new public spending programs financed with fiscal money (instead of euros). Should these measures become necessary, their effects would considerably less pro-cyclical than the conventional adjustment measures currently in use (since any tax rises or spending cuts would be offset by new fiscal money allocations).
6. In countries like Italy, characterized by high levels of public debt and private sector savings, the use of fiscal money would give greater assurance of Fiscal Compact compliance – the large pool of savings would be mobilized in case the recovery of output and inflation were to prove insufficient to increase fiscal revenues. Actions under items 4 and 5 public debt would be guaranteed by its own replacement with a non-debt instrument (i.e., fiscal money).
7. The system above described has a built-in disincentive against over-issuances of fiscal money, that is, issuances of fiscal money in excess than what is necessary to recover normal output and employment. In such circumstances, the new money would be inflated and its value would depreciate against the euro. This would hurt fiscal money holders in the country concerned but would not bear consequences for other Eurozone countries. It would penalize moral hazard behavior, but it would not generate financial instability through credit events such as debt write-off, restructuring or insolvencies.
8. A TRC Program for Italy

Italian 2016 GDP is forecast to be approximately € 150 bn lower (in constant 2016 euros) than its pre-crisis (2007) level. This corresponds to 9% of Italy’s GDP. To recover such output gap, TRC issuances could start at € 30 bn in 2017 and then gradually increase up to € 120 bn in 2020. Assuming a 1.25 fiscal multiplier, € 120 bn in additional demand would produce a € 150 bn (120 x 1.25) GDP increase. This approximately corresponds to 9% of the current € 1,700 bn level, i.e., more than 2% additional growth on a yearly average basis than the GDP trend without the TRC program.

The fiscal multiplier is an estimate of the additional real GDP generated by implementing expansionary fiscal policies (higher government expenditure, lower taxes or whatever action which cause more purchasing power to become available to the public). We assume a 1.25 fiscal multiplier value based on conservative estimates derived from economies in from a deeply depressed demand environment.[[9]](#footnote-9)

**Table 1. TRC Program for Italy: Issuances and Uses**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| YEAR  TRC | 2017 | 2018 | 2019 | 2020 | 2021 | 2022  (and beyond) |
| Issuances | 30 | 60 | 90 | 120 | 120 | 120 |
| Uses | 0 | 0 | 30 | 60 | 90 | 120 |

As detailed below, the program provides for a significant share of total TRC issuances to be allocated to enterprises with a view to reducing their gross labor costs. This corresponds to a 9% reduction in total Italian companies employee costs (currently about € 450 bn p.a.) and significantly enhances the competitiveness of domestic firms. This would allow higher exports, plus substitution effects of certain import with internal production, to compensate for the higher imports (including of raw materials) that the strong economic recovery led by the TRC program would generate. As already noted, intervening on the gross labor cost would (i) prevent Italy’s external trade balance from deteriorating, and (ii) avoid demand leakages through import that would weaken the effect of the fiscal multiplier.

Setting a two-year maturity for TRCs and planning for a gradual attainment of the € 120 bn TRC stock target, TRC redemptions would stay lower than TRC issuances up to the sixth year of the program (Table 1).

In addition to the € 150 bn additional real GDP, as estimated above, it is reasonable to predict that higher inflation will set in as the output gap is progressively reduced. Higher inflation of 1% p.a. would imply more than € 100 bn in additional nominal GDP (due to price effects) in six years (1.700 x 6% = 102). Total nominal GDP would then be higher by more than € 250 bn (in 2022) as a result of the TRC program. As Italy’s gross government revenue as a percent of GDP is currently almost 50%, € 250 bn in higher nominal GDP imply € 120 bn of higher gross revenues in 2022, which would offset the revenue shortfalls due to TRC redemptions. In addition, prior than 2022 the TRC program would generate gross government revenues in excess of rebates, thus allowing for a reduction of the gross public debt / GDP ratio (Table 2):

**Table 2. TRC Program for Italy: Economic and Fiscal Impact**

(Changes in billion euros)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| YEAR  IMPACT | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| Real GDP changes | 38 | 75 | 113 | 150 | 150 | 150 |
| Higher cumulated inflation | 1.0% | 2.0% | 3.0% | 4.0% | 5.0% | 6.0% |
| Price effect on GDP | 7 | 34 | 51 | 68 | 85 | 102 |
| Nominal GDP changes | 55 | 109 | 164 | 218 | 235 | 252 |
| Gross total tax rate | 47.5% | 47.5% | 47.5% | 47.5% | 47.5% | 47.5% |
| Gross government revenue change | 26 | 52 | 78 | 104 | 112 | 120 |
| Uses of TRC |  |  | -30 | -60 | -90 | -120 |
| Net government revenue changes | 26 | 52 | 48 | 44 | 22 | 0 |

Note that the projected impact above does not take into account the additional effects that would derive from the expansion of private credit (including to fund new corporate investment) which would likely occur especially from the second and third year of the program as Italian corporate investments have been depressed for many years.

### Safeguards

We propose that the TRC program include a set of safeguard measures aimed to protect the budget in the event of a program’s fiscal underperformance. Assume, in the case of Italy, that target TRC issuances of € 120 bn p.a. would be allocated as follows:

Wage increases: € 40 bn

Tax wedge reductions: € 40 bn

Social expenditures: € 20 bn

Public investments: € 20 bn

As explained above, the conservative assumptions adopted for the projections imply that the larger gross government revenues deriving from higher GDP would match, or exceed, tax rebates in every single year of the program.

**Table 3. TRC Program for Italy: Impact Issuances and Uses**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| YEAR  IMPACT | 2017 | 2018 | 2019 | 2020 | 2021 | 2022  (and  beyond) |
| TRC issuances | **30** | **60** | **90** | **120** | **120** | **120** |
| Wage increases | 10 | 20 | 30 | 40 | 40 | 40 |
| Tax wedge reduction | 10 | 20 | 30 | 40 | 40 | 40 |
| Social expenditures | 5 | 10 | 15 | 20 | 20 | 20 |
| Public investments | 5 | 10 | 15 | 20 | 20 | 20 |
| TRC uses |  |  | **30** | **60** | **90** | **120** |
| Max potential trigger for safeguards |  |  | **30** | **60** | **90** | **120** |
| Increase in VAT rates |  |  | 14 | 28 | 42 | 56 |
| Increase in property taxes |  |  | 8 | 16 | 24 | 32 |
| Expenditure cuts |  |  | 8 | 16 | 24 | 32 |

However, we devise a set of actions to be implemented in the event that the expected expansionary effects were not to fully take place and the fiscal performance turns out to be lower than anticipated. The safeguards can be structured as follows:[[10]](#footnote-10)

Increase in VAT rates: up to € 56 bn

Increase in property taxes: up to € 32 bn

Expenditure cuts: up to € 32 bn

The impact projections are reported in Table 3. Since, by construction, the maximum potential trigger for safeguards equals the use of TRCs in each single year, the program may *never* add to government fiscal deficits and increase debt.

We strongly emphasize that these safeguards would unlikely be triggered up to their theoretical maximum. In fact, we expect there would be no need to activate them since there is no plausible reason for the economy not to fully respond to a positive demand shock such as that stimulated by the TRC program. Yet, the provision for safeguards would make the program fiscally robust and, as discussed, it would prevent market uncertainty from adversely affecting its effectiveness.

## Why the TRCs and Not Simply More Deficit?

Budget deficit limits have been repeatedly exceeded by countries such as France and Spain, while Germany and the Netherlands have regularly recorded current account surpluses in excess of the 6% threshold set by the EU treaties. Yet none of these countries have been sanctioned so far. In fact, the sanctions are so low that their cost would be largely outdone by the benefits from an appropriately devised increase in deficit spending.

Italy, could in fact increase its budget deficit to 5% for three years, induce a strong GDP recovery, and wait for the increased tax revenues to bring down the deficit again. To do so, it might rely on the ECB’s “whatever it takes” commitment under the OMT program.

However, the ECB might not approve of such policy choice, and it might discontinue its commitment to supporting public debt prices. The possibility of such an eventuality would be considered by markets as an additional risk factor: it might not be high in terms of likelihood, but it would definitely not be negligible – and in fact it could potentially be catastrophic – in terms of impact.

The TRC program that we propose avoids all this, since it stands on a strong government commitment never to increase public debt. This is the main difference between using the TRCs and breaking the budget rules. Moreover, the TRC program does not rely on the ECB maintaining a lenient attitude. It is, therefore, a much more reliable solution for a stable, permanent economic and monetary framework.

## Conclusions

Fiscal money, in particular in the form proposed in the TRC program discussed in this article, looks like being the appropriate tool to extricate the Eurozone from the malfunctioning that has forced many of its member countries into economic depression. Its introduction would allow these economies to achieve three vital goals: ending the economic depression, rebalancing intra-area competitiveness, and gradually but steadily reducing the government indebtedness levels, which currently foster instability and carry the prospect of further disruptive events in global financial markets. These goals would be achieved without requiring any kind of intra-Eurozone fiscal or financial transfers, the political consensus for which is inexistent and unlikely to develop in the foreseeable future.

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1. Biagio Bossone is an international financial consultant and chairman of the “Group of Lecce” on global financial governance. Marco Cattaneo, chairman of CPI Private Equity, is involved in private equity and structured credit transactions, both as an advisor and principal investor. [↑](#footnote-ref-1)
2. The concept of fiscal money is enrooted in “Chartalism”, the theory developed by the German economist Georg Friedrich Knapp. The term “Chartalism” derives from the Latin “charta”, that is, “paper”, in relation to the nature of paper money as legal tender and in contrast to “Metallism,” the principle whereby money derives its value from the purchasing power of the commodity upon which it is based. Knapp (1905) wrote about the power of the state to create pure paper money and to confer value on it by accepting it as payment for tax obligations. More recently, Modern Money Theory economists such as Randall Wray, Matthew Forstater and Warren Mosler further explored the concept. Pilkington and Mosler (2012) and Pilkington (2013) propose to make Eurozone country government bonds acceptable to pay taxes within the issuing countries in case of the issuer’s inability to pay interests and/or capital, thus reducing the sovereign cost of funding for specific Eurozone countries. [↑](#footnote-ref-2)
3. The idea of the TRC was originated by Marco Cattaneo (see Cattaneo and Zibordi, 2014). The idea was further elaborated by Biagio Bossone, Marco Cattaneo, Enrico Grazzini, and Stefano Sylos Labini in a public manifesto, [here available in English](http://www.syloslabini.info/online/wp-content/uploads/2014/11/Appello-Inglese-rivisto_9-03-2015.pdf). The proposal was the subject of an e-book on fiscal money (Bossone et al, 2015a). For a concise description of the proposed TRC, see Bossone et al (2015b). [↑](#footnote-ref-3)
4. We are grateful to Massimo Costa for providing us with a thorough analysis of this aspect of the TRC. [↑](#footnote-ref-4)
5. See [Eurostat Guidance Note on Deferred Tax Assets (DTAs) and Recording of Tax Credits related to DTAs in ESA 2010](http://ec.europa.eu/eurostat/documents/1015035/2041357/Guidance-Note-on-Deferred-tax-asssets.pdf/42b7934b-a509-4df4-9317-19a1f9900dbe), 29 August 2014. [↑](#footnote-ref-5)
6. Thus, a 2-year TRC issued in 2017 would have no impact in the national account until it would be used for tax reduction, which would not happen prior to 2019. [↑](#footnote-ref-6)
7. For a review of the literature, see Bossone (2015). Recent works reporting confirming evidence of large-value multipliers under important qualifications are Huidrom et al (2016) and Caggiano (2015). See also the discussion below in the text. [↑](#footnote-ref-7)
8. Huidrom et al (2016) find evidence that fiscal positions affect the size of multipliers through two channels. The first is a Ricardian channel – when a government with a weak fiscal position implements a fiscal stimulus, households expect tax increases sooner than in an economy with a strong fiscal position: the perceived negative wealth effect encourages households to cut consumption and save, thereby weakening the impact of the policy on output. The second is the interest rate channel – when the fiscal position is weak, fiscal stimulus increases lenders’ perceptions of sovereign credit risk, which raises sovereign bond yields and hence borrowing costs across the whole economy, crowding out private investment and consumption. [↑](#footnote-ref-8)
9. We conservatively took a 1.3 low-middle point value within the range of existing estimates spanning the 0.9 - 2.0 (and higher) interval, and reduced it to 1.25 to take into account the discount that would apply to TRCs traded before maturity. [↑](#footnote-ref-9)
10. The way these measures are designed would also reduce possible Ricardian effects on consumption, since a large part of the contingent adjustment would take the form of spending cuts and VAT increases. The latter, if anticipated, would accelerate current consumption (D’Acunto et al, 2015). [↑](#footnote-ref-10)