

Coronabonds with or without Germany

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This paper explores the rationale and feasibility of **debt mutualization among Eurozone countries** (e.g. France, Italy, Spain, and Belgium) with the possibility that all Eurozone countries participate (including Germany and the Netherlands), but which could also work effectively without German and Dutch support. It describes practical steps in this direction, with the creation of a **European Solidarity Treasury Agency** emitting a new debt (or “Special Purpose Vehicle”) called “Coronabonds-1”. The debt issued would represent approximately 5% of participating countries’ GDP in 2020 (or €250 billion in the case of France, Italy, Spain and Belgium). The paper proposes a debt repayment scheme via a novel **European Solidarity Tax on Corporate Profits**, which would also be effective should only a subset of Eurozone countries adopt it and which could reimburse the debt issued in 2020 in 4-5 years. The corporate tax would incentivize non-participatory countries to join the initiative.

1. The recession to come could be the largest in a century or more. Europe’s response does not rise to the challenge.

The world is facing an immense and unprecedented crisis. Once the public health crisis is over, nations face an economic downturn that could shatter their economies. The latest IMF forecasts estimate that the “Great Lockdown”, i.e. the economic crisis stemming from responses to the coronavirus, will lead to a GDP contract of 3% worldwide, which is *thirty* times worse than the 2009 global recession. Unlike 2009, neither China nor the emerging economies that have also been hit by the virus cannot play a significant buffer role.

The Euro area is expected to contract by 7.5 % in 2020 (-7% in Germany, -7.2% in France, -9.1% in Italy, -8% in Spain, see **Table 1**). In comparison, the 2009 crisis led to a 4% drop in GDP in the Euro area.

All forecasts agree on one thing: this recession may be the largest one experienced during peacetime in a century or more. To put things in perspective, in 1929 incomes fell by approximately 10% in the US and Germany. They fell by 10% again in both the second and third year following the crash (**Figure 1**). The magnitude of the “Great Lockdown” is comparable to the shock caused by the 1929 crisis in these countries.

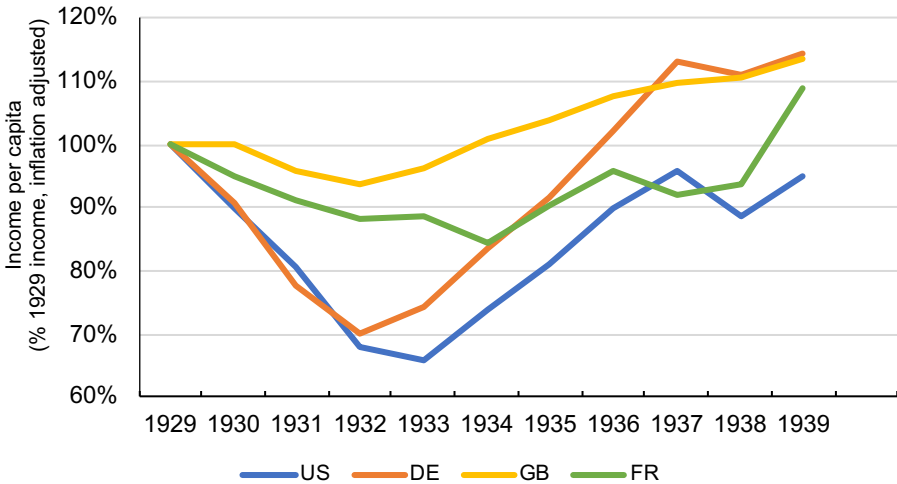
Table 1. GDP growth forecasts during the “Great Lockdown”

	Real GDP, annual % change	
	2019	2020 (forecast)
World Output	2.9	-3
Advanced Economies	1.7	-6.1
United States	2.3	-5.9
Euro Area	1.2	-7.5
<i>incl. Germany</i>	0.6	-7
<i>incl. France</i>	1.3	-7.2
<i>incl. Italy</i>	0.3	-9.1
<i>incl. Spain</i>	2	-8
Japan	0.7	-5.2
United Kingdom	1.4	-6.5
Canada	1.6	-6.3
Other Advanced Economies	1.7	-4.6

Source: Author, based on IMF(2020)
World output is expected to decline by 3% in 2020.

Figure 1. Growth during the “Great Depression”

Income per capita in rich countries, 1929-1939



Source: Author, based on WID.world (2020).

In 1930, income per capita dropped by 10% in the US and Germany.

The severity of the crisis among major economies will prompt them to run substantial deficits in an attempt to assist their economies under lock down. Deficits are likely to be of the order of 10%—or more—this year in countries that are the most affected.

2. The ECB March rescue package was historical but largely insufficient.

One of the major risks facing the European Union in the context of this crisis is the implosion of the Eurozone (namely Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Portugal, Slovakia, Slovenia, and Spain). The Eurozone implosion would probably spell the end of the European project as we know it today.

The risks faced by a monetary union without fiscal and budget integration have been amply discussed over the past decade, in the wake of the 2009-2012 sovereign debt crisis. An indicator of the level of tension faced by the Eurozone is the spread (i.e. the difference in the yield of two countries) between the yield of Eurozone countries' sovereign bonds and the German sovereign bond (*Bund*) yield. When the spread becomes too large, the stability of the Eurozone is jeopardized: it may be in a country's best interest to exit the single currency area to regain monetary independence in order to deal with the crisis via monetary (and fiscal and budgetary) means.

In order to limit the risks of Eurozone implosion, the European Central Bank (ECB) first announced, on March 12, 2020, an extension of its "Asset Purchase Program" (APP). Before the Coronavirus crisis, the ECB used to purchase € 20 billion per month (€ 240 billion per year) of public and private debts, intervening on markets to bring down interest rates. An additional envelope of € 120 billion was agreed (bringing the total APP envelope to €360 billion for 2020). This measure was probably undersized and was accompanied by an announcement by ECB's director Christine Lagarde (i.e. that the ECB's role was not to close spreads), which contributed to fuel market uncertainty.

Less than a week later, on March 18, the ECB announced another package, dubbed "Temporary Pandemic Emergency Purchase Program" (or PEPP), covering both private and public sector securities as well. The Program had an immediate and substantial impact on Eurozone countries' 10-year interest yields (i.e. the bonds emitted by governments and to be repaid within 10 years, see **Figure 2** below). Italian and Spanish bond yields had indeed risen significantly (multiplied by a factor 3 to 6) after the outbreak of Covid-19 in these countries. As a result of the PEPP, Italian and Spanish spreads dropped significantly (from 320 points to 188 points in a day and from 146 points to 84 points in a few days for the Italian and Spanish spreads, respectively). French and German bond yields, negative before the crisis (i.e. investors accept a negative return on their investments), increased in early March but also decreased significantly after the ECB's 18th March announcements.

However, over the past weeks, Spanish and Italian yields have been on the rise again, while the German (and French) yield remained stable overall, driving spreads upward. The current value of the spread between the Italian bond and the German one (around 230 points) remains below the values recorded at the peak of the European Sovereign Debt crisis of 2012 (around 400 points). However, it is likely that these 2012 levels could be reached if the current dynamics are prolonged.

Given the exceptional nature of this crisis, it is extremely difficult, if not impossible, to argue that rising spreads are the result of bad decisions and a lack of compliance with European Union rules by Southern countries prior to the crisis, an argument largely put

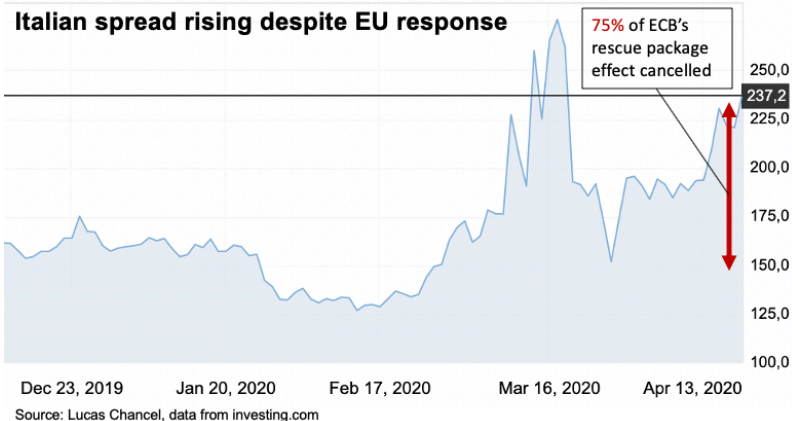
forward by opponents to debt mutualization in 2012. As a result, it is possible to argue that everything should be done in order to limit such spreads via monetary, but also, budgetary and fiscal means.

3. The lack of agreement on Coronabonds has already erased more than 75% of the impact of the ECB’s rescue package.

On April 9, 2020 European leaders agreed on a € 500 billion rescue package. Under the leadership of the ECB, the negotiations for this rescue package moved faster and with more strength than those of the 2009-2012 crisis. While there are several positive aspects of this rescue package (including the possibility for the European Solidarity Mechanism to intervene by purchasing bonds of Eurozone countries), this intervention proved insufficient. In particular, EU leaders failed to agree on partial debt mutualization (or “coronabonds”), which would be limited to spending related to coronavirus measures. This option, which would immediately stop the rise of spreads and reduce borrowing costs for Southern European countries, has received support from at least 10 countries (including France, Italy, Spain, Belgium, Ireland, Luxembourg, Portugal, Greece, Slovenia) out of 19 in the Eurozone, representing the vast majority (60%) of the blocks’ GDP. However, the Netherlands and Germany, in particular, have up to now opposed such a proposal.

What have been the consequences of this failure to agree on Coronabonds? Focusing on the effect of the ECB’s response on Italian and Spanish yields described in the previous section, it appears that 75% of the effect has already been wiped out (Figure 2). Similar values are obtained for Spain.

Figure 2. Italian Spread rising despite European Union response.



Source: Author, data from www.investing.com
 Italian 10y bond vs. German Bund spread is 237 on April 21, 2020.

There at least two other, less mediatized and more technical, but also telling indicators of perceived market risks which deserve particular attention. The first one is the spread between Italian Credit Default Swaps issued on 2014 ISDA standards (i.e. Credit Default Swaps or CDS are insurances against asset defaulting turned into tradeable financial assets) and CDS issued on ISDA 2003 standards. While CDS ISDA 2014

cover against the risk of an Italian Eurozone exit, CDS ISDA 2003 do not. Although information from CDS markets should be scrutinized critically and with prudence, the spread between the two instruments can be seen as an indication of perceived market risk of default on Italian debt (or more precisely on the risk premium associated to an Italian default). This indicator also indicates that ECB and Eurogroup' measures have not been sufficient to reassure financial markets.¹ The other indicator is the first derivative (or slope) of the gap between 10 years and 2 years interest rates on the Italian debt. This indicator hit its lowest level since the 2012 crisis, revealing a particularly worrying short-term defiance against Italian debt. The indicator worsened after Eurogroup's meeting.

Support in favor of debt mutualization to avoid the risk of Eurozone implosion seems to be growing among European voters. Recent polls suggest that German voters' support for coronabonds is stronger than support for no debt mutualization and a resulting Italexit. More precisely, when told about the risk of Italexit, 48% of German voters support Coronabonds vs. 35% of voters refusing them and preferring Italexit (see Baccaro et al., 2020²).

However, German and Dutch governments remain opposed to Coronabonds, even in the context of a mostly asymmetric and stochastic shock (some countries are more affected than others and this is largely out of bad luck). How to explain this opposition? Are Dutch and German leaders optimistic about bond yields in Italy and Spain, unlike other European leaders? To what extent do short-term national politics interfere with European solidarity matters? Are leaders opposed to Coronabonds unaware of the risks of an implosion in the block brought on by a new sovereign debt crisis? Do they believe that Southern countries, such as Italy and Spain, are too attached to the Euro to leave the block? Or, do they believe that implosion would be better than a (limited) amount of fiscal solidarity in times of unprecedented crisis?

As these questions remain unanswered, the risk of political or economic implosion is real. Below, we sketch a plan to reduce this risk via partial debt mutualization without German (and Dutch) support if necessary, but leaving space open for these countries to join the group if and when they want to do so.

4. How can a few countries mutualize their debt?

Eurozone countries do not need to wait for unanimous support to mutualize debt. Below are steps that could be taken in order to move forward.

1. Assume France, Spain, Italy and Belgium decide to mutualize interest rates on any debt related to the payment of Covid-19 sanitary and economic response. The proposal can be extended to any country willing to join the group, as discussed below. To clarify: in the first version of this plan, the debt is not mutualized, it is the interest on the debt that is. Countries continue to repay the debt they contract, but do not face exorbitant borrowing costs (i.e. exorbitant yields) if the market bets against them, thanks to the fact that they now issue common debt and face a common interest rate. In case they decide

¹ See for instance Gros (2018).

² Study conducted by the Max Plank Institute on 1004 individuals.

to do so, these countries could also decide to gradually mutualize the interest rate on their entire stock of debt, as discussed below.

2. An intergovernmental “European Solidarity Treaty” is signed between the four countries, which establishes a special agency (called here the “European Solidarity Treasury Agency”). The Agency is co-directed by the current directors of the France, Italy, Spain and Belgium treasuries (the agencies responsible for issuing sovereign debt for the countries). The work of the agency can be supervised by an ad-hoc parliamentary body (see section 5), composed of members of the parliaments of each country in proportion to their population size.³ Nothing in EU law would prevent these countries from pooling their debt nor establishing such an agency⁴.
3. The sole role of the Agency is to create a Special Purpose Vehicle (SPV), similar to the European Financial Stability Facility.⁵ The SPV is guaranteed by the four countries and limited to the pandemic response. We call these bonds Coronabonds-1. In the first (and emergency) version of this plan, only Coronabonds-1 are mutually guaranteed. The rest (and vast majority) of the debt of each country remains out of the scheme. This cannot be changed by the Agency. The mutualization is limited to new debt issued to face the pandemic and is to be repaid by each country in proportion to the debt they accrued. The agreement can be subsequently revised via an agreement between the three parties.
4. The European Solidarity Treasury Agency emits € 250 billion of Coronabonds-1 in 2020. In practice this means close to €100 billion debt issued by France in 2020 under this scheme, €75 billion issued by Italy, €60 billion issued by Spain and €20 billion issued by Belgium. For Italy, considering that current annual mid-term debt emissions are approximately €250 billion, the issuance of €75 billion of debt under this mutualized scheme would lower its own emissions by close to a quarter, which is far from significant. This would already have a significant downward effect on the spreads on non-mutualized Italian debt emissions.

³ See also the « Treaty for the Democratization of Europe » (www.tdem.eu) for more details on how such an assembly could function and be organized.

⁴ Note that DG ECFIN already has a trading room which emits debt for the EU. It could be argued that a Solidarity Treasury Agency would therefore compete with existing EU institutions. If this was actually the case, the Intergovernmental Treaty could be challenged by the Court of Justice of the EU on the grounds of *competing* prerogatives. However, such a legal argument is likely to be easily refuted by the countries signing the Treaty on the grounds that (i) the existing trading room has very abilities to emit debt, (ii) it cannot emit the amounts of debt discussed under this plan and (iii) cannot give back the debt Member States enabling them to substantially reduce their borrowing costs. The Treasury Agency here proposed therefore does not compete with existing EU institutions, but is a clear complement to them, being different in institutional design, scope and economic policy implications.

⁵ See <https://www.esm.europa.eu/efsf-overview>. SPV are usually created to solve targeted, and temporary, problems. In the context of the Eurozone debt crisis, they had the interest of relatively easy to set up and get running.

Table 2. Population, national income and Coronabonds-1 emissions in 2020

	Population (million)	Population (% of total)	National Income (billion PPP €)	National Income (% of total)	Coronabonds-1 emissions (€ billion)
France	66.5	36%	1956	39%	98
Italy	61.0	33%	1493	30%	75
Spain	46.4	25%	1163	23%	58
Belgium	11.5	6%	376	8%	19
<i>All 4 countries</i>	<i>185.4</i>	<i>100%</i>	<i>4988</i>	<i>100%</i>	<i>250</i>

Source: Author, based on WID.world (2020). Population and national income data for 2018. Under the new Special Purpose Vehicle “Coronabonds-1”, Italy would issue €75 billion of debt in 2020.

5. Effectively, the yield on Coronabonds-1 would lower Italian bond interest rates and probably the Spanish bond as well, as the risk premium on this debt would decrease. Congruently, it would halt the rise of spreads. The interest rate for French and Belgian borrowers would slightly increase. By how much? This depends on a mix of factors, including the credit rating of the institution/vehicle issuing the debt, the existence of a dedicated debt repayment mechanism, the level of guarantee offered by participating countries on the debt, the maturity of the debt, as well as political factors that we discuss (briefly) below.
6. Currently, the Italian yield on 10-year bonds is 1.82%, the Spanish yield is 0.82%, the Belgian yield is 0.11% and the French yield is 0.04%. Pooling current yields weighted by each country’s GDP would give an interest rate of 0.75% (on April 16), which corresponds more or less to the average yield on France’s 10-year bond between 2017-2019. This can be considered an upper bound estimate of the yield on Coronabonds-1⁶.
 - a. The yield on debt issuance could probably be significantly reduced if the four countries agreed on a viable joint mechanism by which to repay the debt (as we do in **section 5** below), i.e. a tax which acts as a clear signal that countries will be able to repay the debt.
 - b. The yield could be further reduced if the Special Purpose Vehicle is co-guaranteed by each Member State: each participant guarantees 100% of its “own” share of the debt (or more, e.g. 150% to 200% of this value, as is currently the case with the European Financial Stability Facility). Over-guarantee ensured that the EFSF kept a double-A credit rating and, hence, can borrow at very low interest rates.
 - c. The debt could be issued on a relatively short maturity (i.e. a 2 to 10 year, rather than 10 to 30-year maturity), further reducing the interest rate.
 - d. More technical options can also be thought of to further reduce the yields. Issuing “Green Bonds” (for instance to target support to sectors of the

⁶ Another benchmark could be the dynamics of interest rate on the debt issued under European Stability Mechanism.

sustainable economy currently in distress) could increase demand for the bonds.

- e. The newly issued debt could also be eligible for European Central Bank Quantitative Easing or repurchasing activities, with potentially significant impacts on the credit rating of the Special Purpose Vehicle. Pools of countries are already eligible to ECB QE. This is the case of the Nordic Investment Bank, which only benefits Scandinavian countries. It would be paradoxical if a pool of Eurozone countries were not.
 - f. A further possibility to reduce the yields would be that governments encourage their citizens through national campaigns to purchase Coronabonds-1, increasing demand for the debt and reducing rates.
 - g. Overall, the combination of these options suggests that France, Italy, Spain and Belgium, alone, without Germany, could already benefit from relatively good interest rates on a jointly issued debt. Further modeling should be done to estimate the interest rate of such a debt, but a 0.5% interest rate on such mutualized bonds may be a reasonable first approximation.
7. With the above approximation in mind, one can provide a first order estimation of the cost induced to a country like France, which would see its interest rate increase? Assuming that France emits €50 billion of Coronabonds-1 at 0.5% via the new SPV, repayable in 5 years, the additional charge on debt would be approximately €2.5 billion per year (0.1% GDP) and €12.5 billion overall after five years. All else equal and assuming that France emits €100 billion on the first year, we can approximate the cost to be 0.2% GDP per year and for 5 years. At the same time, France's current charge on its debt (around €40 billion per year) would probably be reduced as France would emit less via its regular debt emission schemes, bringing down the net overall cost of Coronabonds-1 issuance for France. The 0.1-0.2% GDP per year over 5 years figure is therefore a probable *upper* bound and has to be balanced with the cost of a Single Market disintegration for a country like France (the cost would probably be of the order of several GDP percentage points). The cost should also be balanced with the benefits of a debt repayment scheme such as the one proposed in part 5 (which would raise more than 1% of GDP, an order of magnitude more than the cost here estimated).
8. This mechanism is open to all other European countries (Germany, Ireland, Portugal, Luxembourg, Greece, etc.) who would also enter the governing structure of the European Solidarity Treasury Agency (and the ad-hoc parliamentary body supervising it). If and when all Eurozone countries join the group, the scheme can become codified into European Union law.
9. Nothing in the current EU treaties prevents countries from establishing such an agency even absent the support of all Eurozone countries. The issuance of Coronabonds-1 and the establishment of an ad-hoc governance structure are prerogatives of sovereign Member States. It is important to remember that the most prominent institutions and regulations established by the Member States

to face the 2012 Sovereign Debt Crisis were initially developed in parallel to European Union law, before being absorbed into it.⁷

5. How to pay for Coronabonds?

Issuing bonds will not be sufficient to solve the current crisis. The issuance of partially mutualized debt buys time, but the key economic and political question is how to repay this debt. Coupling a clear and sound plan to pay for coronavirus related expenses with the issue of mutualized bonds is also a good way to reduce borrowing costs. Many options are on the table and are being discussed (including debt monetization and progressive taxation):

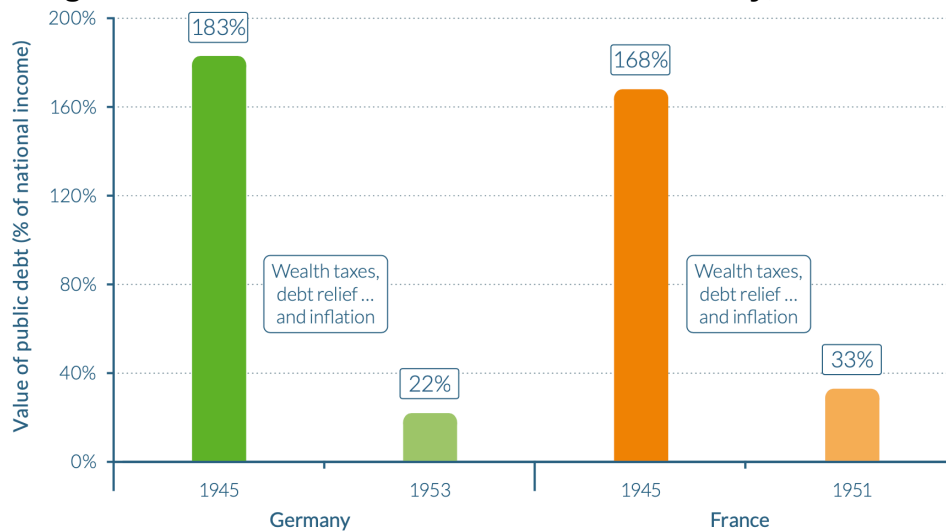
- **Debt monetization** (i.e. the purchase of debt by the European Central Bank, via perpetual loans for instance) has many advantages but also limitations. Debt monetization can take the form of a perpetual (i.e. non-repayable) debt by the Central Bank towards States. Perpetual loans can also be issued directly to enterprises and/or households (in which case it amounts to what has been termed “helicopter money”). This solution (whether perpetual loans to States or to households, or a combination of both) should ideally be part of the package of answers to reduce debt levels associated to the current crisis and to pre-2020 debt levels in European countries. However, debt monetization cannot be the sole answer to the current crisis. First, it places a lot of importance in the hands of an actor that is currently (and to some extent will always be) outside of proper democratic control. Another difficulty is that such a solution requires an amendment to the Treaty governing the functioning of the Central Bank and hence the support of all Eurozone countries. France, Italy, Spain and Belgium couldn't move forward with such a plan without Germany. While changing the treaty is not impossible, as the 2012 debt crisis has demonstrated, it seems unlikely at this stage that all crisis response could be dealt with through debt monetization. Another counter argument put forward by certain voices is that debt issuance to citizens would be costly because of intermediation costs. So far however, to our knowledge there hasn't been any sound and transparent evaluation of the costs that would be associated to this intermediation. Finally, after some point, debt monetization can trigger **inflation**⁸. Inflation has also been a policy option used to repay debts throughout history. However, inflation is blind: it might erode assets of wealthy individuals, but it can also impact small wealth owners as well as individuals at the bottom of the social ladder, whose incomes are not indexed on inflation. In short, inflation can have undesirable impacts on social justice.
- An alternative proposal to debt monetization proposed by certain market analysts is to reinvest maturing debt issued in the context of the PEPP for a very long period, for e.g. 15 or 30 years. This has the interest of being feasible in the context of European Treaties (it has already been done in the context of the

⁷ See in particular the “Pringle” decision of the European Court of Justice on November 2012. The ECJ found that the treaty establishing the European Stability Mechanism had not violated EU law. In particular, the case admits that an intergovernmental treaty between European Member States does not violate EU law if it does not deal with exclusive EU powers. This wouldn't be the case in our proposal.

⁸ Of course, in the current context, deflation seems to be a much greater risk than inflation.

Securities Market Program) but is probably not sufficient to fully ease perceived market risks given the amount of debt to be emitted in order to address the economic and sanitary crisis.

Figure 3. Debt reduction in France and Germany, 1945-1953



Source: World Inequality Report 2018, see Alvaredo et al. (2018) section 5

- **Debt restructuring** (i.e. extend the maturity of the debt, that is the duration of full repayments) is also an option. This has been done several times over the past decades, in the context of the Greek debt but also and more importantly in the context of the German debt (it was indeed decided at the London Conference of 1953 that German war debt repayments would be postponed until German reunification - with no debt indexation mechanism, meaning that inflation *de facto* cancelled most of the German debt). In the current context, a common agreement to restructure European debts would reduce interest rates for countries emitting new debt. The main limitation is it requires the agreement of all parties (including Germany).
- **Debt cancellation** (i.e. Member States agree that a certain part of their current debt, or agree in the future that a certain part of coronavirus debt, will simply not be repaid). While this solution has been used several times throughout European history (and largely to the benefit of Germany, see above), it may also pose economic risks for banks and Member States who purchased this debt. In short, debt cancellation for a small country (like Greece) poses little risk to the future financing of the rest of the European economy. However, substantial debt cancellation in Italy, Spain, France or Germany would place a significant level of stress on the central banks of these countries, and on the economy as a whole. The issuance of perpetual debt by the ECB to refinance or purchase past or current Member States' debt would probably be the best way to "cancel" debt without placing such a stress on the financial system, but as discussed above, perpetual debt issuance cannot be the sole answer to the current crisis.
- **Austerity** (i.e. Member States reduce government expenditures to repay this debt). Austerity measures have been implemented throughout Europe after the

2009-2012 crisis. There is growing recognition that this policy worsened the crisis instead of improving it.

- **Taxation** (i.e. Member States levy new taxes to repay for the debt). The limit of this approach is that taxes can impact the economic behavior of taxpayers. If taxes are raised on lower and middle-income groups, or small businesses, this can fuel the recession by placing more economic stress on these actors. Taxes can instead be progressive and target economic actors who have the resources to contribute more to coronavirus related investments and expenditures. This solution has also been used throughout history, in particular after the economic shocks of the first and second world wars as well as the 1929 crisis (**see Figure 3**).

There is no silver bullet to pay for Coronavirus crisis induced costs. A mix of debt monetization and possibly debt restructuring should be part of that mix. We argue below that progressive taxation should certainly be part of the package of solutions, and yet it has attracted limited attention so far.

As Member States are about to largely intervene in their economies to support corporate actors, with partial unemployment payments, loan guarantees and other mechanisms, it is legitimate that, in return, businesses contribute to the financing of Coronavirus crisis related expenses and to the functioning of European welfare systems. With this in mind, we propose a new **European solidarity tax on multinational corporate profits**. This scheme can also be complemented by other progressive taxes (including a tax on wealth and top incomes).⁹

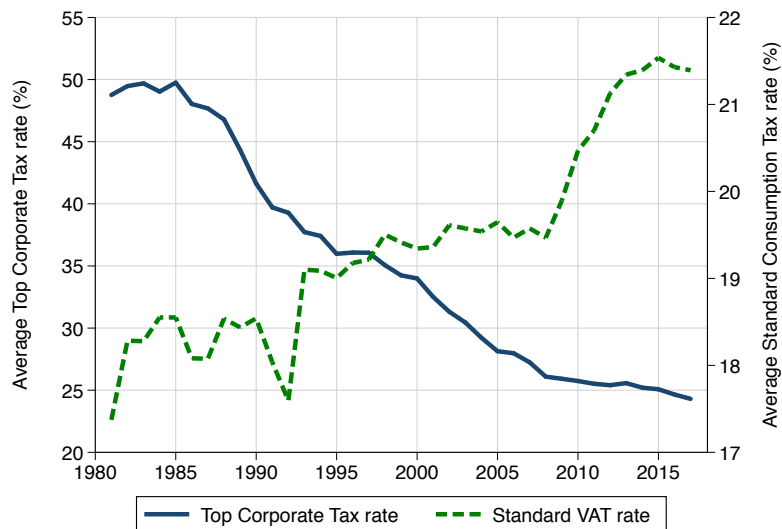
1. Assume France, Italy, Spain, and Belgium want to establish a **European solidarity tax on multinational corporate profits**.
2. In the “European Solidarity Treaty” establishing a new debt issuance Agency (see section 4), the parties agree on the establishment of a joint Parliamentary Assembly. The parliamentary body is composed of the members of Parliament of the four countries, in strict proportion to their population (e.g. 36 French MPs, 33 Italian MPs, 26 Spanish MPs, and 6 Belgian MPs out of 100 MPs, see table 2). The parliament can meet digitally if needed.
3. The Parliamentary Assembly is given the power to implement a tax on the profits of multinational companies, in order to pay off the costs of the health and economic crisis response packages. In the first preliminary version of this plan, the powers of the assembly are strictly limited to the profit tax. Those powers can be extended (see www.tdem.eu for a more elaborate version of the powers that such a parliament could have).
4. In the current proposal, France, Italy, Spain, and Belgium, via the newly established assembly, could decide to tax multinational corporate profits at 30%. This rate would apply to multinationals registered at home and on the

⁹ See for instance Landais, Saez and Zucman (2020) who propose a tax on top 1% wealth owners in Europe as well as www.tdem.eu (Bouju et al., 2019) which describes, how to implement top income and top wealth taxes in the EU, on top of a corporate tax,

profits of all foreign multinationals selling on their territory (as a proportion of sales made in the country or on the basis of artificially shifted profits¹⁰). France's corporate tax rate on companies is currently set to 28% since January 1, 2020, down from 33% in 2017 and from 50% in 1986. Italy's corporate tax is currently set at 24%, down from 31% in 2016 and from 53% in 1997. Spain's corporate tax rate is currently set at 25%, down from 30% and 35% in 2014 and 2006, respectively. Belgium's statutory corporate tax rate is 28%, down from 48% in the late 1980s. In that respect, France, Italy, Spain, and Belgium followed the general trend in EU countries (**Figure 4**) to lower corporate taxation. At the same time, most EU countries increased VAT taxes, which are regressive and impact low-income households most.

¹⁰ See Torslov et al. (2020) for definitions and computations of artificially shifted profits as well as Appendix Tables 1 and 2 which provide estimations of tax revenues if all artificially shifted profits were repatriated (i.e. territorialized). See also Zucman (2018) for a discussion on different apportionment options.

Figure 4. Top corporate tax rate in the EU vs. VAT tax rate, 1980-2018



Source: Author based on Blanchet, Chancel and Gethin (2019)

In 1980, the average top corporate tax rate in the European Union was close to 50%.

5. A 30% effective tax on all multinational corporate profits would raise funds equivalent to approximately 1.5% of GDP in France, Italy, Spain and Belgium (See Appendix Table 1).¹¹ This would be enough to repay a 5% GDP deficit (or the equivalent of €250 billion coronabonds emitted under the scheme here proposed) in 3-4 years, and a GDP deficit of 10% in 6-7 years, without increasing taxes paid by small enterprises and individuals.¹²
6. The principle is simple: a euro taxed by a country accrues to the treasury of that country. In the first version of the plan, there are no joint investments. This can be reviewed if and when countries agree to do so.
7. This plan is compatible with European single market rules: countries have the right to tax corporate profits at the level they decide. Foreign countries would not be discriminated against because, in the case of foreign multinationals operating in, say, France, it is only the difference between the foreign tax rate and the French tax rate that would be taxed. For example, the German effective corporate profit tax is around 12% today (while the German statutory tax rate, which combines federal and regional rates, is 30%). Profits of German multinationals would be taxed at the difference between the effective tax rate and the new common solidarity tax rate, i.e. 18% (30%-12%), on profits effectively realized in France/Italy/Spain/Belgium.

¹¹ An effective corporate tax of 30% would generate 1.6% of GDP in the four countries considered, assuming that artificially shifted profits are repatriated to their country of origin (see Appendix Table 1). Note that the loss incurred by Belgium from profits repatriated to France, Italy or Spain would be largely compensated by the increase in the corporate tax rate (see Table 2). More precisely, Belgium would gain around 2.7 billion, or approx. +0.6% GDP, net of losses incurred by the end of profit shifting. Note that France would obtain 0.8% GDP in additional revenues with a 30% minimum corporate tax rate on all profits and 1.5% with a 37% tax rate.

¹² We assume here that coronavirus debt is 10% of the GDP of each country in 2020.

8. If Germany decides to join the initiative, Germany would also collect the additional tax and could use it to finance its own public services or reduce taxes on other categories of German taxpayers (eg. working and middle class households). This mechanism therefore also acts as an incentive for Germany to enter the European Solidarity Treaty.
9. In the case of a country like the Netherlands, a tax on territorial multinational corporate profits implemented by France, Italy, Spain and Belgium would also have a strong impact on its national tax revenues, as companies currently shifting profits from these countries to the Netherlands to benefit from lower corporate tax rates would lose most of their incentives to do so. However, the loss incurred by the Netherlands would be more than compensated by the increase in local corporate tax rate (See Appendix Table 1)

Conclusion

This paper outlined the rationale and the way forward for a small group of European countries to group together and issue Coronabonds bonds without waiting for the support of all Eurozone countries. This proposal can be extended to any country willing to join the group.

A new European Solidarity Treasury Agency is proposed, in charge of issuing €250 billion Coronabonds-1 in 2020. We show that debt mutualization would have positive impacts on yields and has the potential to put an end to rising spreads between Southern and Northern European countries.

The brief demonstrates how the establishment of a tax on multinational corporate profits would repay the totality of bonds issued in 2020 in 3-4 years and could reimburse a 10% deficit in GDP within a 6-7 year period. Indeed, other progressive taxes can be added (including a tax on high wealth and income earners), as well as other monetary response mechanisms, further reducing repayment periods.

A tax on territorial multinational corporate profits would also act as a political and economic incentive for countries such as the Netherlands (EU's largest tax haven) or Germany (EU's largest exporter) to join the initiative in order to recover tax revenues that would accrue to France, Italy, Spain and Belgium if Germany or the Netherlands remained out of the group.

Bottom line: European Treaties do not prevent the willing EU Member States from mutualizing their debt or from raising new taxes on multinationals (or high wealth individuals). This initiative could contribute to a snowball effect, where more countries join in after a time. On the other hand, the failure to take action could also contribute to an opposite snowball effect, risking the disintegration of the European single market and of the European project as a whole.

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Appendix Table 1A. Estimated impact of a Solidarity Tax on Corporate Profits in France, Italy, Spain and Belgium

	GDP	Total reported corporate profits	Total artificially shifted corporate profits	Total tax base without profit shifting	Total corporate tax revenues	Tax revenues from profit shifting	Total effective corp. tax rate	Effective corp. tax rate on foreign profits	Marginal corp. tax rate compensating end of profit shifting	Additional corp. tax revenue of a 30% effective tax rate on all corp. profits	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]=[5]/[2]	[8]	[9]=[6]/[4]	[10] = (0.3-[7])*[2]-0.3*[3]	[11] = [10]/[1]
	(2016 EUR billion)						(%)			(2016 EUR billion)	(% GDP)
Belgium	423.4	71.3	13.7	57.6	14.6	2.3	20%	17%	4.0%	2.7	0.6%
France	2221.8	180.5	-32.5	212.9	45.2	-10.8	25%	25%	-5.1%	18.7	0.8%
Italy	1684.7	223.9	-21.6	245.5	36.0	-6.8	16%	16%	-2.8%	37.7	2.2%
Spain	1115.3	160.1	-13.3	173.4	25.0	-3.3	16%	16%	-1.9%	27.0	2.4%
<i>All 4 countries</i>	<i>5445.1</i>	<i>635.8</i>	<i>-53.7</i>	<i>689.4</i>	<i>120.8</i>	<i>-18.6</i>	<i>19%</i>	<i>20%</i>	<i>-2.7%</i>	<i>86.0</i>	<i>1.6%</i>

Source: Author, based on data from Tørsløv, Wier and Zucman (2020) [Appendix Tables U1, C4 and C4d]. All values for 2016. USD values converted to 2016 EUR using a 1.11 market exchange rate. See Tørsløv et al. (2020) for methodology and detailed notes. See Tørsløv et al. (2020) for methodology and detailed notes.

Appendix Table 2. Corporate profits and taxes in rich countries

	GDP	Total reported corporate profits	Total artificially shifted corporate profits	Total tax base without profit shifting	Total corporate tax revenues	Tax revenues from profit shifting	Total effective corp. tax rate	Effective corp. tax rate on foreign profits	Marginal corp. tax rate compensating end of profit shifting	Additional corp. tax revenue of a 30% effective tax rate on all corp. profits	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]=[5]/[2]	[8]	[9]=[6]/[4]	[10] = (0.3-[7])*[2]-0.3*[3]	[11] = [10]/[1]
	(2016 EUR billion)						(%)			(2016 EUR billion)	(% GDP)
EU countries											
Austria	355.1	44.7	-4.3	49.0	8.4	-1.0	19%	19%	-2%	6.3	1.8%
Belgium	423.4	71.3	13.7	57.6	14.6	2.3	20%	17%	4%	2.7	0.6%
Czech Republic	175.8	31.2	-2.0	33.2	6.6	-0.4	21%	16%	-1%	3.4	1.9%
Denmark	281.1	46.9	-4.0	50.9	7.4	-0.9	16%	16%	-2%	7.8	2.8%
Estonia	21.6	4.0	-0.3	4.2	0.4	-0.1	9%	9%	-1%	0.9	4.2%
Finland	215.5	25.6	-2.9	28.6	4.8	-0.6	19%	13%	-2%	3.8	1.8%
France	2221.8	180.5	-32.5	212.9	45.2	-10.8	25%	25%	-5%	18.7	0.8%
Germany	3150.1	527.3	-59.0	586.2	61.7	-17.5	12%	12%	-3%	114.1	3.6%
Greece	175.9	21.0	-1.5	22.5	4.4	-0.4	21%	18%	-2%	2.4	1.4%
Hungary	113.5	18.0	-3.3	21.3	2.7	-0.6	15%	4%	-3%	3.7	3.3%
Iceland	18.6	2.3	-0.5	2.8	0.5	-0.1	21%	21%	-3%	0.4	1.9%
Ireland	272.0	161.7	105.5	56.2	7.3	6.9	5%	7%	12%	9.5	3.5%
Italy	1684.7	223.9	-21.6	245.5	36.0	-6.8	16%	16%	-3%	37.7	2.2%
Latvia	25.0	3.7	-0.2	3.9	0.4	0.0	12%	5%	-1%	0.7	3.0%
Luxembourg	53.1	82.9	45.2	37.8	2.5	7.7	3%	6%	20%	8.9	16.7%
Netherlands	706.2	186.3	90.3	96.0	23.6	7.0	13%	9%	7%	16.6	2.4%
Poland	425.1	70.8	-3.8	74.6	7.8	-0.7	11%	11%	-1%	14.6	3.4%
Portugal	185.9	25.0	-2.9	27.9	5.7	-0.6	23%	23%	-2%	2.7	1.5%
Slovak Republic	81.0	10.5	-0.8	11.3	2.8	-0.2	27%	27%	-1%	0.6	0.7%
Slovenia	40.2	3.4	-0.1	3.6	0.6	0.0	19%	19%	-1%	0.4	1.1%
Spain	1115.3	160.1	-13.3	173.4	25.0	-3.3	16%	16%	-2%	27.0	2.4%
Sweden	461.4	56.5	-9.3	65.7	12.7	-2.0	22%	18%	-3%	7.0	1.5%
Other European											
Iceland	18.6	2.3	-0.5	2.8	0.5	-0.1	21%	21%	-3%	0.4	1.9%
Norway	334.5	60.1	-5.6	65.7	13.4	-1.4	22%	22%	-2%	6.3	1.9%
Switzerland	603.8	81.4	65.9	15.4	18.9	5.3	23%	8%	34%	-14.3	-2.4%
United Kingdom	2404.6	367.5	-72.6	440.2	65.0	-14.5	18%	18%	-3%	67.0	2.8%
Other Rich											
Australia	1142.2	153.9	-15.2	169.1	53.7	-4.1	35%	35%	-2%	-3.0	-0.3%
Canada	1378.6	123.6	-13.7	137.3	47.6	-3.6	38%	25%	-3%	-6.4	-0.5%
Japan	4438.4	604.1	-10.7	614.8	163.8	-3.3	27%	23%	-1%	20.7	0.5%
United States	16853.3	1623.1	-137.1	1760.2	331.4	-54.9	20%	20%	-3%	196.6	1.2%

Source: Author, based on data from Tørsløv, Wier and Zucman (2020) [Appendix Tables U1, C4 and C4d]. All values for 2016. USD values converted to 2016 EUR using a 1.11 market exchange rate. See Tørsløv et al. (2020) for methodology and detailed notes.