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Edited by Frederik Eidam and Friedrich Heinemann

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Towards more feasible sovereign debt restructurings in the euro area

Results from the ZEW's SEEK project on 'regulating sovereign debt restructuring in the eurozone'

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Preface

Over the last year, exchanges that were initiated by the ZEW's SEEK-conference on 'regulating sovereign debt restructuring in the eurozone' resulted in vivid discussions on more feasible sovereign debt restructurings in the euro area. This volume summarizes these discussions by collecting several contributions on different aspects of the topic. Founded in different perspectives, contributors sometimes provide different conclusions, or highlight different choice options and their underlying trade-offs. However, common to all authors is the aim to increase the resilience of the European Monetary Union and to contribute on the debate on the European reform agenda.

We hope that this volume will be an interesting read, contribute to the understanding on sovereign debt restructuring and spur a constructive policy debate on how to cope with insolvent sovereigns in the euro area. Despite fears about financial instability, this volume shows that there is no convincing reasons to further taboo the search for a euro area sovereign debt restructuring mechanism.

Exchanging ideas on sovereign debt restructuring with such a diverse and excellent group of researchers and policy makers has been a privilege. We would like to express our gratitude to all contributors, workshop participants as well as institutions and individuals who supported this volume.

Frederik Eidam

Friedrich Heinemann

February 2019

1 The design of a sovereign debt restructuring mechanism for the euro area: Choices and trade-offs[1]

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Abstract

This paper critically assesses several dimensions of a sovereign debt restructuring mechanism (SDRM) for the euro area. The novelty of our analysis is that we abstain from recommending one ideal model for a restructuring mechanism. Instead, we apply a menu-type approach. For five key institutional SDRM dimensions, we discuss the underlying fundamental trade-offs and discuss the pros and cons of different design choices. Specifically, we investigate the following SDRM dimensions: (i) the institutional assignments of responsibilities, (ii) the condition or decision rule that triggers a debt restructuring, (iii) the design and size of debt restructuring, (iv) the role and details of collective action clauses (CACs), and (v) the safeguards for financial stability in support for a SDRM. We conclude that there is no such thing as the single optimal SDRM. Design decisions require judgements on the underlying trade-offs and related assumptions on relative costs. Also, the search for an appropriate euro area SDRM design can benefit from complementarities. Ambition in one dimension can offer more degrees of freedom in another dimension. Our analysis implies that there is no convincing reason to further taboo the search for a euro area SDRM, as there are ways to combine the opportunities of a credible SDRM with financial stability.

1. Introduction

From a historical perspective, sovereign defaults are no rare events (Destais, 2019): The first recorded example dates back to ancient Greece, when Greek cities did not repay a loan to the Temple of Delos. Since 1800, at least 250 sovereign default events on foreign loans and around 70 domestic public debt default events have been recorded (Reinhart and Rogoff, 2009). In contrast to this historical experience,

[1] We greatly acknowledge comments from participants at the ZEW's SEEK-Conference on "Regulating sovereign debt restructuring in the eurozone" (Mannheim, June 2018), an ECB seminar and Tabea Bucher-Koenen. We appreciate financial support for this conference from the Stiftung Geld und Währung. Part of this research has been conducted in the context of the ZEW SEEK "European Network on Better Institutions" project.
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the perception of the likelihood of sovereign defaults was very different in the first years of the euro.[5] With the optimistic mood in the early euro era, the scenario of a sovereign insolvency was widely seen as unrealistic for countries in the monetary union. Since the outbreak of the eurozone sovereign debt crisis in 2010, this optimism has been deeply shattered. Financial markets and politicians had to learn that EU and euro member countries are not immune to developments that can finally lead to sovereign insolvency and default.

The euro area sovereign debt crisis has kicked-off comprehensive reforms with a tightening of fiscal governance, measures to cut the sovereign-bank nexus such as the buildup of the European Banking Union and the creation of the European Stability Mechanism (ESM) as a permanent mechanism for liquidity support (Strauch, 2019). Moreover, the European Central Bank (ECB) has set up its Outright Monetary Transactions (OMT) program that has the potential to back up the ESM's liquidity provision to crisis countries through purchases of government bonds in secondary markets. However, the euro area still lacks a statutory sovereign debt restructuring mechanism (SDRM) that precisely defines procedures and responsible institutions in case of a sovereign insolvency. A few elements that affect the handling of sovereign insolvency are in place, such as the obligation to include Collective Action Clauses (CACs) in new euro area sovereign bond issues and the performance of a debt sustainability analysis (DSA) prior to ESM lending. Nevertheless, apart from these few clarifications, the strategy how to cope with insolvent sovereigns remains vague and largely undefined. As a consequence, the euro area still sticks to a case-by-case approach in dealing with sovereign debt restructurings.

There are several arguments that this case-by-case approach might be sub-optimal (Destais, 2019). On the one hand, the case-by-case approach likely leads to procrastination. Politicians and market participants can have interests to delay a debt restructuring. The absence of a clearly defined procedure and delays increase uncertainties and can thus increase the social and economic costs of a sovereign debt overhang. In addition, procrastination might lead to open or hidden bailout solutions that can raise issues of moral hazard, democratic legitimacy and, voter resistance on the side of donor countries. On the other hand, there are arguments that the absence of a clearly defined procedure could be beneficial due to its "constructive ambiguity". Underlying this argument are the risks of destructive multiple equilibria in government bond markets (Baglioni and Bordignon, 2019). In addition, limiting contagion to other member countries financial sectors and sovereigns has been a key argument to postpone or abstain from sovereign debt restructurings. Given these diverse arguments, there is an ongoing academic debate about how a SDRM could be designed to match the conditions of the euro area (for surveys on SDRM proposals see Fuest et al. (2016), and Andritzky et al. (2018)). Increasingly, this academic debate impacts the ongoing political reform process in the euro area. For example, in December 2018 the Eurogroup proposed to strengthen the existing CAC obligations and to assign the ESM the role as moderator for debt negotiations between euro countries and creditors (Eurogroup, 2018).

In this paper, we critically assess several dimensions of a SDRM for the euro area. The novelty of our approach is that we abstain from recommending one ideal model for a restructuring mechanism. Instead, we apply a menu-type approach.[6] For five key institutional SDRM dimensions, we discuss the underlying fundamental problems and trade-offs and discuss the pros and cons of different design choices in the context of the euro area. The objective is to inform on the available choices in the design of a more specified SDRM. To our knowledge, we are the first to take this comprehensive and neutral view on the topic of introducing a SDRM, instead of providing a specified proposal.

[5] Prior to the Greek debt restructuring in 2012, there has been no sovereign debt restructuring in Europe since the Second World War (Zettelmeyer et al., 2013).

[6] With "menu-type approach", we refer to different choice options for different institutional SDRM dimensions. This is not to confuse with the "menu approach" (or "Toronto terms") of the Paris Club for debt rescheduling.

A transition from the current case-by-case approach towards a more predictable SDRM implies some minimum requirements. First, there must be well-defined *institutional assignments*. The responsible institutions for tasks such as the performance of the DSA, the decision to trigger debt restructuring negotiations or the provision of liquidity, have to be determined. Second, a SDRM should specify a condition or decision rule for *triggering the start* of debt restructuring. Here, a wide spectrum of possibilities between unconstrained discretion and a fully formula-based automatism exists. Third, the mechanism should guide the decision on the necessary *design and size of debt restructuring*. There are various design alternatives that could have different repercussions, such as the choice between debt reduction through nominal haircuts and debt rescheduling by lengthening the maturity of outstanding debt. Fourth, the *role and the details of collective action clauses (CACs)* have to be decided. CACs have an essential function for a contractual approach to debt restructuring that assigns the responsibility for the resolution of a debt overhang to debtors and lenders. However, CACs can also smoothen the functioning of a statutory SDRM. In both cases, CACs provide a legal underpinning of burden sharing to mitigate negotiation inefficiencies during debt negotiation, but the effectiveness of CACs depends on different dimensions. Fifth, the establishment of a SDRM must not ignore the *safeguards for financial stability* and needs to be embedded in the evolution of the regulatory and financial environment. Currently, euro area features such as the prevailing sovereign-bank nexus are risk factors for the possibly destabilizing consequences of any debt restructuring.

Our analysis investigates these five SDRM dimensions in detail. In the subsequent sections, we discuss for each dimension the underlying challenges, involved trade-offs, and existing options that policy makers have to be aware of before taking a decision. Key insights along these five dimensions are as follows:

Institutional assignments: The most controversial issue among the necessary institutional decisions appears to be the appropriate responsibility for the DSA. After the foreseeable end of an IMF involvement in the DSA, the remaining decision is one between either leaving the DSA in the full responsibility of the European Commission and the ECB, or assigning a larger role to the ESM and/or another neutral institution such as the European Fiscal Board (EFB). The appropriate choice also depends on the position towards transfers among member countries. Those who are afraid of transfers as an unintended solution to a national debt overhang would tend to assign an important role in the DSA to the ESM or even another more independent institution. It is likely that those who would rather be ready to accept transfers as an element of a solidarity union or as a precaution against multiple equilibria would rather favor a DSA under the full control of the European Commission with substantial political discretion.

Triggering the start: The choice of criteria or decision procedures to trigger a debt restructuring faces a trade-off between the two objectives of minimizing the risks of multiple equilibria and avoiding procrastination of debt restructuring. While a fully formula-based automatism – if it can ever be credible – might solve the procrastination problem, it implies financial stability risks for countries approaching the trigger. In contrast, full discretion could provide ambiguity that can limit the risk of destructive multiple equilibria, but the downside are possibly stronger procrastination incentives. Consequently, the decision on how to design the trigger will depend on the perception of relative costs of financial instability versus procrastination. Design options that might alleviate this trade-off combine formula-based models with some discretionary leeway.

Design and size of debt restructuring: Historical evidence shows that not only the pure incidence of a sovereign debt restructuring matters, but that its consequences are heavily affected by the design choices. A first design choice of a debt restructuring concerns the magnitude of the operation. While an ambitious size of restructuring is likely to overcome the debt overhang problem, it could also result in larger costs

in terms of increased future borrowing costs and higher risks to financial stability. In addition, variations in the magnitude of debt reductions result in substantial distributional consequences. This is because the size of a debt restructuring determines the magnitude of wealth that is shifted between (foreign) creditors and the domestic population. A second design choice relates to the choice between debt reduction through cuts in the nominal (face) value of debt, or debt rescheduling through lengthening of the maturity of outstanding debt (and potential interest rate reductions). While debt reduction provides instant debt relief that helps to immediately stimulate economic growth, debt rescheduling promotes macroeconomic adjustments and external rebalancing.

Role and details of collective action clauses (CACs): Creditor holdouts and litigation are recognized as a key reason for inefficiencies and delays in sovereign debt restructurings (Das et al., 2012). Mitigating these costly and prolonged battles after sovereign defaults faces a trade-off between financial stability risks and the speed of transition to a new regime. Those who judge the current likelihood of debt restructurings low or fear the financial stability risks of an immediate regime change might prefer a contractual solution through strengthening CACs. However, as CACs are only introduced in the issuance of new debt instruments, this results in a gradual penetration of debt stocks with CACs and implies long transition phases. Those who view debt restructurings in the near term more likely or have fewer concerns about financial stability risks of an immediate regime change might opt for legal solutions, such as changes to the ESM treaty or immunization of ESM funds against holdouts. These legal solutions may also be applied ad-hoc and in combination with CACs to facilitate debt restructurings, such as in the case of Greece in 2012.

Safeguards for financial stability: The most important concern of a sovereign debt restructuring is the financial instability that could originate from the close link between credit risk of the sovereign and credit risk of the (domestic) financial sector (Zettelmeyer, 2018). Beyond the completion of the Banking Union, reducing the sovereign-bank nexus through removing regulatory privileges for sovereign debt is a key reform. However, the choice of banking regulation faces a trade-off between the differentiation of sovereign credit risk across eurozone member states and limiting distributional consequences. Those who prefer differentiation of sovereign credit risk would prefer the introduction of credit risk-dependent sovereign risk weights and accept the large resulting variations in banks' additional capital requirements across countries. Those who prefer to limit distributional consequences would rather introduce uniform concentration limits across sovereigns and accept that this approach only addresses concentrated exposures to individual sovereigns.

2. Institutional assignments

2.1 Underlying general problem

A SDRM for the euro area has to assign the following responsibilities to existing or newly designed institutions:

a. the provision of liquidity prior to a decision to trigger the insolvency procedure,
b. the conduct of the debt sustainability analysis (DSA),
c. the decision to trigger the debt restructuring mechanism,
d. and the provision of liquidity during debt restructuring negotiations.

If a country merely suffers from a temporary liquidity shortage, but its medium- and long-term fiscal perspective is fundamentally sound, there is a clear case for liquidity assistance. Liquidity assistance is particularly crucial in a monetary union, as euro member countries are indebted in a currency beyond their sovereign control. This lack of sovereign control makes the euro area particularly prone to

destructive multiple equilibria in sovereign bond markets (Baglioni and Bordignon, 2019). The establishment of a SDRM as such may increase the risk of self-fulfilling crises. Hence, a SDRM must be embedded in an architecture that includes powerful tools to provide financial support to countries that suffer from a mere liquidity crisis (function a). Liquidity support is also needed for an insolvent country in the transitory period of negotiations as well as the time until a debt restructuring restores debt sustainability and achieves market access (function d). The DSA (function b) is a crucial task as it provides the basis to distinguish between the case of a temporary illiquidity and a fundamental insolvency of a sovereign. Finally, the decision has to be taken whether or not the SDRM is triggered (function c).[7] The DSA (function b) and the decision to trigger the SDRM (function c) can, in principle, be split between two institutions, where the responsible institution for the trigger may take into account additional criteria on top of the DSA (e.g. financial stability, political considerations).

In the decision to trigger the SDRM, two types of errors are possible and both can have severe consequences (Zettelmeyer, 2018): With a 'Type I error', a sovereign with unsustainable debt will continue to receive financial assistance. In this case, financial assistance has a transfer character and bails out the sovereign that would not be able to fully repay the loans received. With a 'Type II error', a sovereign is denied liquidity assistance although it could restore solvency without debt restructuring by conducting adjustments and reforms. This error causes political and economic costs of debt restructuring that would be avoidable in the absence of the error.

Hence, a decision on whether a DSA should be generous or strict also involves a judgement on the relative costs of both types of errors as a reduction of the Type I error usually corresponds to an increase of the Type II error. Supporters of a solidary transfer union might be more willing to accept Type I errors (and its resulting transfers), whereas opponents of a transfer union might try to avoid this Type I error under any circumstances. The costs of a Type II error are influenced by the performance of the SDRM. The smoother a SDRM operates and the swifter a SDRM reliably reopens capital market access for the affected sovereign, the lower the involved economic and political costs of a Type II error might become.

In the eurozone, the status quo to fulfill these four functions can be described as follows: The ESM and possibly the ECB provide liquidity (functions a and d) to sovereigns that loose market access and agree with the ESM on a Memorandum of Understanding (MoU). Through its Outright Monetary Transaction (OMT) program, the ECB can offer additional liquidity for sovereigns with ESM support through the purchase of the country's sovereign bonds in the secondary market.

The DSA (function b) is currently assigned to the "Troika" of European Commission, European Central Bank and IMF – with a primary responsibility to the Commission, a supporting role for the ECB and a possible contribution from the IMF.[8] Judging on the basis of the experience with the Greek public sector involvement (PSI), the decision to trigger a debt restructuring (function c) involves the Troika and also the Eurogroup (Zettelmeyer, Trebesch and Gulati, 2013).

This current setup has been criticized on several grounds. First, this set-up has not avoided long delays in restructuring the Greek debt. In the case of Greece, this institutional setup arguably caused a Type I error as Greece has effectively received a bailout through generous ESM financing conditions (Buchheit and Gulati, 2018; and section 3). Second, the strong involvement of the ECB regularly raises concerns that this monetary policy institution oversteps its monetary policy mandate. And third, the IMF involvement is controversial as some see an undue external influence in internal European decisions.

[7] Section 3 discusses in detail pros and cons of triggering the start of a SDRM.

[8] Art. 13 ESM Treaty states: "the Chairperson of the Board of Governors [of the ESM] shall entrust the European Commission, in liaison with the ECB, with the following tasks: … (b) to assess whether public debt is sustainable. Wherever appropriate and possible, such an assessment is expected to be conducted together with the IMF."

2.2 Institutional options for a SDRM in the euro area

In its December 2017 proposal for a Council Regulation on the establishment of the European Monetary Fund (EMF), the European Commission sketched its preferred institutional solutions also with respect to the above listed functions of a SDRM (European Commission, 2017). According to this blueprint, the intergovernmental ESM, which is based on the international ESM Treaty, would be replaced by the supranational European Monetary Fund (EMF) under EU law. The new EMF would provide financial assistance to crisis countries under similar conditions as the ESM so far (functions (a) and (d)).[9] With the EMF, the role of the IMF in the DSA would come to an end. The DSA would be assigned solely to the "Commission in liaison with the ECB". In their November 2018 joint position on future cooperation the ESM and the European Commission clarify how the ESM shall take part in DSA together with the Commission and the ECB (ESM, 2018).

In its proposal on euro area reform from December 2018, the Eurogroup (2018) clarified its view on EMU deepening, which do not follow all of the Commission's suggestions. The Eurogroup does not recommend to transform the ESM into a supranational EMF at this stage. However, it agrees with the Commission that the involvement of the IMF in the DSA should come to an end and supports the agreement between the Commission and the ESM on future cooperation on the DSA. This joint position gives the Commission the last word in the "overall assessment of the sustainability of public debt", but states that the ESM will independently assess the Member State's capacity to repay ESM loans.

Overall, there seems to be a consensus that the ESM is the right institution for the liquidity support (functions a and d), whereas the right institution to perform the DSA (function b) is a more contested issue. The options for the institutional involvement of the DSA are the following:

(i) leave the responsibility for the DSA unchanged with the Troika of Commission, ECB and IMF

(ii) discard the IMF from the DSA-performing institutions without replacement

(iii) replace the IMF through the ESM in the DSA

(iv) include another more independent institution in the DSA (option iv can be combined with any of the other options)

In the following, we discuss the pros and cons of involving different institutions in the DSA:

IMF involvement: A key argument opposing IMF involvement is that it raises concerns about an undue external influence in European affairs. Important arguments in favor of IMF involvement are its contribution of technical expertise, large experience in dealing with insolvent sovereigns and a more neutral perspective than European players with their political interests (e.g. a bias towards procrastination of SDR, see section 3).[10] The argument in favor of the IMF with respect to its expertise might become weaker with the buildup of ESM/EMF and the growing DSA experience of European institutions. Further, it can also be questioned whether the IMF is still a credible guarantee for an unbiased DSA as demonstrated by two recent experiences in Europe (Zettelmeyer, 2018). First, in the 2010 decision of lending to Greece, the IMF has also lent money to Greece in spite of a negative DSA. Second, in 2015 the IMF decided not to join new lending to Greece due to its negative DSA and the ESM still went ahead with new lending to Greece without the IMF. This has shifted the burden of the

[9] In addition, the EMF would have the additional role as a financing tool for the banking union as the 'financial backstop' to the Single Resolution Fund.

[10] For example, while the financing conditions of EFSF/ESM support for Greece have been considerably softened since 2010, the IMF has insisted on high interest rates on its own loans as these would better reflect the lender's low creditworthiness (Corsetti et al., 2017).

(Type 1 error-related) bailout fully to European creditors. The potential credibility import from an IMF involvement is low, if IMF lenders do no longer have skin in the game. In fact, the IMF will soon loose skin in the game as IMF loans are paid back early with high interest rates, while ESM loans have extended maturities of more than 30 years with preferential interest rates.

ESM involvement: A key argument in favor of involving the ESM in the DSA is one of linking liability to responsibility: The institution which provides liquidity assistance and thus accepts the credit risk of the sovereign should also be fully involved in all analytical steps that prepare the credit decision. A counter-argument is that not only the European Commission with its interest in European solutions has a political bias but also the ESM (Baglioni and Bordignon, 2019). However, an ESM involvement would give the fiscally sound countries (i.e. the high-creditworthiness ESM guarantors with their veto power in the ESM governing bodies) more influence on the DSA, which could be seen as a counterweight against a bias towards lending to insolvent sovereigns (Type I error). Thus, the decision on an ESM involvement in the DSA amounts to a decision on the weight of creditor countries in the DSA procedure.

Involvement of another independent institution**:** The academic literature discusses the involvement of other, less political institutions. For example, a new chamber at the European Court of Justice could take over a role in a SDRM (Gianviti et al., 2010)). Another suggestion is to involve the newly established European Fiscal Board (EFB), in particular for the DSA (Asatryan and Heinemann, 2018). The EFB as a neutral watchdog could counterbalance the political myopia of other players and lead to a more neutral DSA. The role of the EFB in the DSA could be combined with a final decision of the Commission, ECB and ESM to trigger the SDRM (and thus lead to a separation of functions b and c). This would give these three institutions the possibility to decide against a sovereign debt restructuring even if the EFB has diagnosed insolvency, e.g. due to financial stability concerns or political considerations. The advantage of this setting would be its transparency. It could thus reduce the risk of a biased DSA being misused to hide political decisions on an effective bailout. The most important counter-argument against the involvement of an independent institution is its possible lack of democratic legitimacy, as its decisions potentially have far-reaching economic and political consequences. In addition, and in contrast to the Commission, IMF, ECB, and ESM, other independent institutions initially do not possess experience to perform the DSA.

2.3 Conclusion on institutional assignments

It is largely undisputed that the ESM (and possibly a future EMF) will be the central vehicle to provide financial support in the context of any SDRM. The larger the ESM's future potential role in the provision of liquidity to sovereigns, the lesser the need to involve the ECB as the lender of last resort. What is more controversial is the decision which institutions undertake the DSA and the decision – on the basis of the preceding DSA – whether a SDR is actually triggered.

The controversy mirrors a deeper dispute whether transfers can be an acceptable solution for insolvent eurozone sovereigns. Those who want to avoid a transfer solution under any circumstances will stress the need for a very strict and impartial DSA as well as a final decision that gives a substantial say to creditor countries (that would have to bear the burden of the transfer solution). Institutional arrangements that assign an important decision role to the ESM – or even another more independent institution – would be in line with this position. In contrast, those who want to accept transfers as an element of a solidarity union and those who fear high costs of a sovereign debt restructuring will rather favor a more lenient and discretionary DSA. Institutional arrangements that assign the DSA largely under the control of the European Commission with some ECB assistance – without the involvement of another institution – would be the favored decision from this perspective.

3. Triggering the start

3.1 Underlying general problem

One of the potential advantages of a procedurally well-defined SDRM is that it could encounter the "too late and too little" problem, i.e. the frequent and costly delay in dealing with a sovereign insolvency (IMF, 2013). Greece was an example of a clearly insolvent country in 2010, where a private sector debt restructuring was delayed until 2012 when "it was (almost) too late" (Zettelmeyer et al., 2013). Underlying these delays are incentives of politicians and creditors for procrastination. Politicians tend to procrastinate the declaration of insolvency, as such a credit event is a strong signal of government failure and, hence, politically costly (Buchheit et al., 2013; Destais, 2019). Following sovereign defaults, electorate support for the incumbent government plunges and the likelihood of a change in government increases significantly (Borensztein and Panizza, 2009). Hence, incumbent politicians have a strong incentive to delay a necessary restructuring of sovereign debt. These incentives may also imply hesitancy to seek liquidity assistance from a lender of last resort if such an institution exists. Any such application might already be seen as a signal of political failure. Moreover, if the application for liquidity triggers a DSA, national politicians could be afraid of an unfavorable outcome. Thus, procrastination relates to various phases of a sovereign debt crisis. In addition, also creditors have incentives to delay sovereign debt restructuring and even grant new credit to a sovereign with a debt overhang problem. The solvency of the domestic sovereign and its local banking sector is heavily intertwined so that particularly weakly capitalized banks have a high incentive to "gamble for resurrection" by increasing their exposure to highly indebted sovereigns (see section 6). Moreover, politicians and creditors also tandem in their procrastination efforts as politicians engaged in moral suasion and political connectedness have led to an increase in the exposure and home bias of banks in Southern European countries during the eurozone crisis (De Marco and Macchiavelli, 2016; Ongena et al., 2016). This procrastination behavior is further incentivized through the regulatory environment that discounts the credit risk of sovereigns, e.g. with the zero-risk weights for sovereign exposure and in the absence of concentration limits for sovereigns (see section 6). Obviously, the way a SDRM specifies a trigger is of substantial importance for the relevance of the procrastination problem.

3.2 Merits and drawbacks of different SDRM triggers

There are two polar solutions in the spectrum of possible SDRM trigger constructions. On the one side of the spectrum, the decision to trigger sovereign debt restructuring is a full formula-based automatism and would thus not leave any discretion to the responsible institution(s). On the other side of the spectrum, the decision to trigger sovereign debt restructuring would be under the full discretion of the responsible institution(s). Both polar cases have crucial risks and opportunities, which are discussed below.

An objectively quantifiable trigger that leaves no room for interpretations (e.g., the debt-to-GDP level surpasses a pre-defined level) has the advantage to credibly neutralize the above sketched procrastination interests of politicians and creditors. The activation of the SDRM would no longer depend on the liquidity application of a debtor country or a politicized decision of any European institution. This advantage is valuable as procrastination entails economic and social costs, as it prolongs the period of uncertainty, high interest rates, fiscal austerity and recession that characterizes the pre-default phase (Buchheit et al., 2013). The risk of procrastination of debt restructuring is substantial for the eurozone. The European Commission currently views six euro countries "at high fiscal sustainability risk in the medium-term" (European Commission, 2018). Consequently, there exists a high probability that the Greek experience with long delays in debt restructuring might repeat itself in the eurozone unless more credible triggers of restructuring sovereign debt are in place.

However, any automatic formula-based trigger also contains severe downsides. A first criticism is in full analogy to the criticism on simplistic debt rules, such as the early version of the Stability and Growth Pact with its focus on the three percent headline deficit: Debt sustainability depends on a multitude of factors, not only the open public debt and the deficit. Additional important factors that need to be considered are for example implicit debt, the maturity structure of debt, growth potential, taxing capacity, reform capability including political stability, assumptions on risk-adequate interest rates and other external factors. Consequently, it is questionable whether any formula could replace a comprehensive DSA. This recognition implies that any such trigger could lack credibility (Zettelmeyer, 2018). The second challenge of automated triggers, even if they are credible, is the risk of vicious circles in the market for sovereign bonds – particularly once economic and fiscal indicators begin to approach the triggering thresholds (Baglioni and Bordignon, 2019). A formula-based automatic trigger could set in motion a vicious circle of increasing risk spreads, increasing deficits and debt and, finally, the activation of the SDRM even for countries that, initially, are in a state of fundamental solvency. A precisely defined trigger could thus coordinate investors to speculate against a sovereign. This problem is particularly severe under the current fragile conditions of EMU, as several highly indebted EMU sovereigns' current debt indicators being already close to any meaningful trigger threshold. In contrast to a fully automatic trigger, a fully discretionary trigger could contain these financial stability risks through its "constructive ambiguity" as market participants could not predict a restructuring with certainty. However, full discretion in triggering a sovereign debt restructuring risks to aggravate the procrastination problem.

The two problems of procrastination and destructive self-fulfilling debt restructuring expectations cannot be solved at the same time, so that the specification of the trigger to start a sovereign debt restructuring contains a trade-off. The ideal model to end procrastination, i.e. full automatism, entails high risks of self-fulfilling prophecies that result in new liquidity crises. Conversely, the ideal model to contain self-fulfilling debt restructuring expectations, i.e. full discretion, is prone to aggravate the procrastination problem.

This trade-off between ending procrastination and containing self-fulfilling debt restructuring expectations has two consequences. First, preferences for the type of trigger will, to a large extent, depend on the perceived relative costs of both problems. Those who do (not) think procrastination costs are substantial will tend to opt for triggers without (with) a large discretionary leeway. Second, those trigger constructions deserve attention that might alleviate the trade-off by providing hybrid solutions between both polar cases.

These hybrid solutions to alleviate the above described trade-off could take different forms, as highlighted in the following three examples. First, quantifiable indicators can be combined with some leeway for case-specific judgement, as in the proposal for a European Sovereign Debt Restructuring Regime (Buchheit et al., 2013). Second, instead of applying an automatic formula to start the trigger, the insolvency-illiquidity question could be decided based on a period of probation whose length is limited (Fuest et al., 2016). In this probation, or shelter period, ESM liquidity support could be granted to any eurozone country that complies with reform conditions, but liquidity support would only be granted for a fixed maximum period. The outcome of the shelter period decides whether the debt restructuring procedure needs to be triggered. While the risk of self-fulfilling debt restructuring expectations remain for certain indicator ranges in the first example, or at the end of the shelter period in the second example, compared to fully automatic triggers these self-fulfilling risks are substantially reduced. Third, leeway in the trigger decision is less likely to lead to procrastination if the responsible institution is independent and consequently less prone to political procrastination incentives (e.g. the European Fiscal Board; see also section 2). In sum, these hybrid solutions offer ways to alleviate tensions between ending procrastination and containing self-fulfilling debt restructuring expectations.

3.3 Conclusion on triggering the start of sovereign debt restructuring

Deciding on how to trigger the start of a sovereign debt restructuring is a multifaceted decision and there is no silver bullet for the SDRM trigger. The two polar cases in the spectrum of possible trigger constructions are full formula-based automatism and full discretion of the responsible institution(s). While full automatism would reduce incentives to procrastinate the sovereign debt restructuring decision, full discretion to trigger debt restructuring would contain self-fulfilling debt restructuring expectations in financial markets. The assessment on the trade-off between the two polar cases could change in the future once the financial environment becomes more stable, e.g. with a completion of the banking union, an effective cut of the bank-sovereign-nexus (see section 6) or a solution for high legacy sovereign debt levels. For the time being, the decision on the SDRM trigger must wisely balance the two polar risks, which are procrastination (that is maximized when a political institution has large leeway) and financial stability risks (which are maximized with a rigid formula-based trigger without escape clauses).

4. Designs and size of debt restructuring

4.1 Underlying general problem

Restructuring sovereign debt is defined as "an exchange of outstanding sovereign debt instruments, such as loans and bonds, for new debt instruments or cash through a legal process" (Das et al., 2012). While debt restructuring provides several benefits to the sovereign, such as reduced indebtedness and consequently lowers debt servicing costs that allow for growth stimulating policies, debt restructurings can also cause substantial consequences. For example, debt restructurings have reputational consequences so that creditors might subsequently exclude the sovereign from international capital markets and increase its borrowing costs (Cruces and Trebesch, 2013). Further, output losses might occur (Trebesch and Zabel, 2016) and trade flows might decline (Rose, 2005). In addition, the domestic financial sector might be significantly affected, potentially leading to a credit crunch in domestic lending (Acharya et al., 2018). Moreover, cross-border spillovers, such as financial contagion, might occur (Bolton and Jeanne, 2011), so that the consequences of a sovereign debt restructuring are not limited to the affected sovereign. Importantly, it is not the pure incidence of a sovereign debt restructuring that matters, but the consequences of a debt restructuring are heavily affected by design choices.

Important design choices of a sovereign debt restructuring are its magnitude, type and timing, and all choices entail important trade-offs. The main design choice of restructuring sovereign debt is the magnitude of debt reductions: *sufficient debt reductions* resolve the sovereigns' debt overhang problem, while *insufficient debt reductions* do not resolve the sovereigns' debt overhang problem. While the absolute magnitude of sustainability-restoring debt restructuring depends on the difference between current indebtedness and expert judgement on a sustainable debt level, variations in the magnitude of debt restructuring have substantial distributional consequences. On the one hand, larger debt restructurings shift the burden of debt restructuring more heavily to (foreign) creditors and/or official lenders, which might increase the severity of punishments by international lenders in the form of capital market exclusions and increased borrowing costs. On the other hand, smaller debt restructurings leave a larger burden of adjustments to the domestic population.

A second design choice of restructuring sovereign debt is the type of debt restructuring: *debt reductions* reduce the nominal (face) value of outstanding debt instruments, while *debt rescheduling* just lengthens the maturity of (the unchanged nominal value of) outstanding debt and potentially involve interest rate reductions. On the one hand, debt reductions provide instant debt relief that can help to immediately stimulate economic growth. On the other hand, debt rescheduling help to promote macroeconomic

adjustments and external rebalancing as only the net present value of outstanding debt is reduced by shifting debt payments into the future (Cheng et al., 2018).

The third design choice is the timing of debt restructuring: *preemptive debt restructurings* are debt exchanges that occur before the sovereign defaults on its outstanding debt, while *post default debt restructurings* occur after a sovereign default. On the one hand, preemptive debt restructurings might smooth debt restructuring as the sovereign has not missed any debt payments. However, under positive economic developments or fiscal adjustments the sovereign might have been able to avert debt restructuring. On the other hand, at the inception of post default debt restructurings the standing of the sovereign in international credit markets is already affected due to missed debt payments to creditors. As a consequence, debt restructuring might become more complicated and lengthy.

In the eurozone, special constraints and advantages also affect the restructuring of sovereign debt (Buchheit and Gulati, 2018). Financial institutions hold disproportionally large amounts of domestic sovereign debt ('home bias') so that debt restructuring risks to decapitalize the local banking sector. In addition, contingent liabilities by the sovereign to the financial sector, such as explicit or implicit government guarantees, also intertwine the domestic financial sector and the domestic government ('sovereign-bank nexus'). Moreover, the health of the government and the banking sector are affected by and affect the domestic economic activity (Dell'Ariccia et al., 2018). Beyond this, eurozone governments de facto borrow in a foreign currency (De Grauwe, 2012), so that currency devaluations to repudiate debt and restore competitiveness are impossible. Nevertheless, most sovereign debt of eurozone member countries is legislated by local law, which allows to facilitate efficient and timely debt restructuring (see section 5). In addition, the ESM is able to quickly mobilize funds to lend money to sovereigns experiencing financial difficulties, avoid debt restructurings through ESM bailouts and thus enhance financial stability. However, large eurozone sovereigns might be too big to save through ESM funds alone.

4.2 Merits and drawbacks on different debt restructuring designs

The empirical literature on the effects of sovereign debt restructurings documents that the above discussed design choices of debt restructurings significantly affect its consequences. First, the magnitude of debt restructuring affects borrowing costs and exclusion from financial markets, initial output losses, and the probability of serial sovereign debt restructurings. Larger magnitudes of debt restructurings compared to smaller magnitudes subsequently induce higher borrowing costs and longer periods of exclusion from financial markets (Cruces and Trebesch, 2013). In addition, the initial output loss of debt restructurings with larger magnitudes compared to smaller magnitudes is significantly larger (Trebesch and Zabel, 2016). However, debt restructurings with smaller compared to larger magnitudes significantly increase the probability of a serial sovereign debt restructuring (Schröder, 2014), implying that the debt overhang problem has not been solved. These results confirm the notion that historically sovereign debt restructurings "have often been too little and too late" (IMF, 2013; section 3).

Second, the type of debt restructuring matters for economic growth, credit quality and macroeconomic adjustments. Debt restructurings increase economic growth and improve sovereigns' credit quality only for debt reductions compared to debt rescheduling (e.g. Reinhart and Trebesch, 2016; Cheng et al., 2018). However, only countries with debt rescheduling undergo a sustained rebalancing of their external sector, and achieve large trade surpluses after the debt restructuring (Cheng et al., 2018). Within debt rescheduling, maturity extensions have a stronger effect on debt sustainability compared to lowering spreads (Corsetti et al., 2018).

Third, the timing of debt restructuring matters for growth, trade and the exchange rate (Asonuma et al., 2016). The authors show that the initial output costs from post default debt restructurings are larger and

more protracted compared to preemptive debt restructurings. In addition, the decline in imports is stronger and more prolonged and the fall in exports larger for post default debt restructurings compared to preemptive debt restructurings. Similarly, the decline in the real exchange rate is larger for post default debt restructurings.

Beyond these design elements, debt restructurings also depend on the type of creditors (Cheng, 2019). Sovereign creditors organized in the Paris Club coordinate debt restructuring following a set of pre-defined principles including conditionality, implying that sovereign debtors are required to reach an agreement with the IMF and subsequently undergo macroeconomic adjustment programs. In contrast, private creditors often lead to a disperse creditor structure so that creditor holdouts and litigation becomes more likely (see section 5). Finally, debt restructurings often exclude multilateral creditors, such as the ECB, IMF or multilateral development banks, implying a de facto subordination of creditors.

4.3 Conclusion on the design and size of debt restructuring

Overall, sovereign debt restructuring is an important tool for solving sovereign debt crisis, but its design crucially matters for the consequences. To achieve the desired objectives, policy makers therefore have to carefully trade-off the merits and drawbacks from different design choices. However, many of these design choices depend on the result of the DSA, which can be controversial depending on the involved institutions and the political objective of these institutions (see sections 2 and 3). In the eurozone, the current institutional setup and substantial economic costs of debt restructuring (see section 6) both foster debt restructurings becoming 'too little and too late' as demonstrated by the Greek debt restructuring in March 2012.

5. Role and Details of Collective Action Clauses (CACs)

5.1 Underlying general problem

A key problem in the restructuring of sovereign debt are creditor holdouts and litigation, which are widely recognized as the key reason for inefficiencies and delays in debt restructurings (Das et al., 2012). Given the absence of an international consensus on a statutory sovereign debt restructuring mechanism (Destais, 2019),[11] contractual provisions that specify the minimum vote on modification of payment terms (called collective action clauses, or abbreviated CACs) were introduced internationally to mitigate these costly and prolonged battles after sovereign defaults (Panizza et al., 2009). CACs should thus address the holdout problem by providing a legal underpinning for burden sharing with the private sector, and as a consequence strengthen market discipline (Zettelmeyer, 2018). Without CACs, modification of bond contract terms require unanimity of consensus of creditors, so that the introduction of CACs comprised a fundamental trade-off: ex-post (once debt restructuring negotiations have been triggered), CACs reduce negotiation inefficiencies, but ex-ante (when a debtor country reflects on the costs and benefits of restructuring), CACs increase the temptation of a sovereign to default (Carletti et al., 2018).

Following the emerging market crises in South America in the mid-1990s, CACs were introduced into most foreign law bonds starting in the early 2000s. By 2012, about 90% of emerging market sovereign New York law debt comprised CACs (Bradley and Gulati, 2014). As the result of foreign law bonds, retrospective legislative enactments - that are possible by local-law bonds - could not be passed by the sovereign anymore for these types of bonds. Consequently, legal risks of foreign-law bonds are lower compared to local-law bonds and sovereigns have a higher legal commitment to repay its debt (Chamon

[11] Such as the IMF proposal by Krueger (2001).

et al., 2018). Consistently, foreign law CAC bonds are traded at lower yields compared to similar local-law non-CAC bonds (Carletti et al., 2018). However, local-law bonds continued to exist in parallel to foreign-law bonds, resulting in a structural subordination of sovereign bond contracts. That is, foreign-law bonds are de facto senior, as they are legally more difficult to restructure.[12]

In the eurozone, sovereign debt has been predominantly issued under local-law, but foreign-law bonds often exist in parallel (Chamon et al., 2018). During the European sovereign debt crisis, the Greek sovereign debt restructuring in March 2012 highlighted the consequences of the coexistence of local-law and foreign-law sovereign debt as well as its effects on restructuring sovereign debt. To facilitate the Greek sovereign debt restructuring, Greece passed domestic legislation (the Greek Bondholder Act, on February 23, 2012) to retroactively impose a form of CACs to its existing domestic-law debt. Under the Greek sovereign debt restructuring plan, creditors would take a haircut of 59-65% resulting from maturity extensions and coupon reductions (Zettelmeyer et al., 2013). Local-law bond holders accepted the exchange offer with vast majority and debt restructuring was successful (Baglioni and Bordignon, 2019). However, the legislative amendment could not be applied to Greece's foreign law bonds issued under English law (Zettelmeyer et al., 2013). Subsequently, some creditors of foreign-law bonds engaged in holdouts and were paid out in full as part of the debt restructuring (Zettelmeyer, 2018).

One of the key policy responses to the Greek debt restructuring was the mandatory introduction of CACs into eurozone sovereign debt to reduce the legal uncertainty of future debt restructurings and insure private sector involvement (Gelpern and Gulati, 2013). Specifically, starting from January 1, 2013 all sovereign bond issues with maturities above one year – independent of local-law or foreign-law bonds – mandatorily had to include CACs with identical contract terms across eurozone member states. Payment modifications under these new CACs specify contract amendments on a single series of bonds as well as across different series of bonds.

5.2 Merits and drawbacks of mandatory CACs in eurozone sovereign bonds

In general, there are two (not mutually exclusive) approaches to mitigate the risk of costly and prolonged battles after sovereign defaults. On the one hand, legal solutions such as changes to the ESM treaty or immunization of ESM funds against holdouts would result in an immediate regime change. However, this immediate change might itself trigger a situation of financial instability that could lead to a sovereign default. On the other hand, contractual solutions such as the introduction of CACs into newly issued sovereign debt would result in a gradual regime change that mitigates the risks of financial instability. However, the mandatory introduction of CACs in sovereign bonds as carried out in the eurozone since 2013 entails two main drawbacks that are discussed below.[13]

First, while a slow transition might mitigate adverse market turmoil, the majority of total outstanding sovereign debt continues to be local-law debt without CACs during the transition phase. This result originates from CACs being only applied to new sovereign bond issuances, so that the existing debt stocks initially remain largely without CACs. Across eurozone sovereigns, the fraction of local law CAC bonds increased from zero to about 13 percent for bonds with maturities between one and 30 years since the start of introducing CACs in January 2013 until June 2014 (Carletti et al., 2018). However, the speed of penetrating outstanding debt with CACs differs widely across countries, and may take more than a decade for certain sovereigns to reach at least 60 percent of outstanding debt (Eidam, 2016). If sovereign debt restructuring becomes necessary despite a low penetration of outstanding debt with CACs, changes

[12] See also Bolton and Jeanne (2009) on selective defaults.
[13] As argued above, another important drawback of the introduction of CACs is that it ex-ante increases the temptation of a sovereign to default.

in local legislation (as in the recent Greek debt restructuring) might serve as a solution to ensure an efficient and timely debt restructuring (Buchheit and Gulati, 2018).

Second, while eurozone CACs strengthen the legal underpinning of risk-sharing with the private sector, these euro area-CACs so far remain untested and minimum votes to modify payment terms of bonds do not apply across all outstanding bonds. Negotiation inefficiencies could be further reduced by mandatory requiring the application of CACs across all bondholders, using so-called "single limb aggregation" (Bénassy-Quéré et al., 2018). In the Greek sovereign debt restructuring in March 2012, the retroactive introduction of CACs under Greek law was successfully applied in the form of "single limb aggregation" across the totality of outstanding bonds, instead of a bond-by-bond basis (Baglioni and Bordignon, 2019). The introduction of single limb aggregation CACs could therefore facilitate the resolution of future sovereign debt restructurings. In fact, in December 2018 the Eurogroup recommended to euro area leaders to mandatorily introduce these single limb CACs by 2022 (Eurogroup, 2018). However, even despite addressing creditor holdout risk by introducing single limb CACs (and in a state of a fully penetrated outstanding debt stock), creditor holdouts might not be eliminated entirely. An example of the remaining risks of single-limb CACs is the Greek debt restructuring in March 2012, where some single-limb English law debt bondholders successfully engaged in holdouts. Further, despite identical wording of these new CACs in the eurozone, differences across legal systems of the member states could result in a possible fragmentation across eurozone countries as shown for existing eurozone CACs (Carletti et al., 2018). Again, combining legal solutions, such as changes to the ESM treaty or immunizing ESM funds against holdouts, with CACs might offer a solution to further reduce litigation risks from holdouts (Zettelmeyer, 2018).

Importantly, CACs only provide a voting mechanism for debt restructurings to keep governments out of courts, but these contractual provisions cannot replace a statutory sovereign debt restructuring mechanism. For example, CACs and legal solutions provide no guidance on triggering the start of debt restructuring, the time dimension for negotiations, the magnitude of expected losses if CACs were to be used, or the provision of interim financing for the time-period of negotiations (Fuest et al., 2016).

5.3 Conclusion on collective action clauses

In sum, CACs and legal solutions are important elements to reduce ex-post negotiation inefficiencies and delays in sovereign debt restructurings, as demonstrated by the sovereign debt restructuring of Greece in March 2012. Consequently, the mandatory introduction of CACs in eurozone sovereign bonds since January 2013 (and single limb CACs by 2022) are important steps to an enhanced resolution of future sovereign debt crises in the eurozone. Nevertheless, a slow penetration of sovereign debt stocks with (single limb) CACs poses a threat on their effectiveness to enhance the resolution of sovereign debt crisis in the near future. The assessment on the trade-off between CACs and legal solutions (such as changes to the ESM treaty or immunization of ESM funds against holdouts) could change in the future, once financial stability risks have been further mitigated (see section 6). Legal solutions beyond CACs could serve as ways to advance the effectiveness of the legal underpinning of debt restructurings beyond CACs. Nevertheless, CACs and legal solutions can only complement a mechanism to regulate sovereign debt restructuring, but not serve as a substitute.

6. Safeguards for financial stability

6.1 Underlying general problem

If the economic costs of restructuring outstanding sovereign debt held by the private sector are too high, it becomes rational for policy makers to bail out highly indebted sovereigns during crises (Zettelmeyer, 2018). Despite the no bail-out clause in the EMU constitution, this rational has been at the core of events

during the eurozone crisis. Except for the Greek debt restructuring in March 2012, policies adapted during the eurozone crisis aimed to ensure that peripheral governments were lent money to repay their debt on time and in full amount (Buchheit and Gulati, 2018). These bail-outs were justified by the sizable economic costs that debt restructurings would inflict on the domestic financial sector, the feedback effects to the domestic sovereign ('sovereign-bank nexus') and contagion to other member countries financial sectors and sovereigns. As a consequence of bailing out troubled eurozone sovereigns, the official sector became a large lender to affected sovereigns. Subsequent maturity extensions and interest rate reductions by official sector lenders de facto violated the no bail-out clause through "hidden" debt relief of official sector lenders' debt.[14] Politicians thus quietly used taxpayers' money to bail-out sovereigns, despite publicly calling for private sector involvements initially. The introduction of a sovereign debt restructuring mechanism consequently affects the fundamental trade-off underlying these policy decisions: Either avoid the risks of private sector involvement by the use of public funds to guarantee financial stability, or facilitate private sector involvement and accept the resulting financial stability risks.

Two closely interrelated phenomena lie at the core of elevated financial stability risks from sovereign debt restructurings. First, the 'home bias' in sovereign debt holdings by domestic banks, which result in a disproportionally large exposure to the credit risk of their domestic sovereign. This 'home bias' results from different underlying channels. For example, purchasing risky, high-yielding sovereign debt allows banks to engage in regulatory arbitrage, as it increases the immediate return on equity without the need to increase Tier 1 capital, as the banking regulation assigns a zero risk-weight to sovereign debt. Also, moral hazard motives play a role for weakly capitalized banks, as the downside risk of holding risky domestic sovereign debt is protected by the limited liability in adverse conditions (Acharya and Steffen, 2015). As a result of the missing lender of last resort in the eurozone sovereign bond market prior to the announcement of the ECB's OMT program in 2012, peripheral governments engaged in financial repression by putting pressure on domestic banks to purchase domestic sovereign debt during crises times (Becker and Ivashina, 2018). Further, due to the downside protection by the limited liability of banks, weakly capitalized domestic banks also engaged as buyer of last resort as the returns on domestic sovereign debt are positively correlated with other revenue sources of the bank, which increases profitability in good states (Crosignani, 2017).

Second, the 'sovereign-bank nexus' intertwines the credit risks of the sovereign and credit risk of the domestic financial sector. If the sovereign wants to stabilize a stressed financial sector through bank bailouts and guarantees (to banks or deposits) to ensure the provision of financial services during crises, credit risk is transmitted from the financial sector to the sovereign (Farhi and Tirole, 2018). In the other direction, increases in sovereign credit risk reduce the value of domestic sovereign debt holdings on banks' balance sheets and thus reduces the solvency of the banking sector.[15] This effect is amplified through the 'home bias' in sovereign bank lending described above. In addition, deteriorating sovereign credit quality can cast doubt whether the sovereign is able to act as a fiscal backstop for the national deposit insurance regime and consequently trigger bank-runs in the domestic banking sector. Sovereign default and debt restructuring would consequently impose substantial collateral damage on the domestic financial sector and contagion to other member countries (Bolton and Jeanne, 2011).

[14] See e.g. Buchheit and Gulati (2018) on the restructuring of the first official sector credit facility for Greece.
[15] A third dimension that intertwines credit risk of the government and the domestic financial sector is economic activity (e.g. Dell'Ariccia et al., 2018).

6.2 Merits and drawbacks of reforms to safeguard financial stability

A key reform to address banks' exposure to eurozone sovereigns' credit risk and the 'home-bias' is to remove regulatory privileges for sovereign debt in the banking regulation.[16] Similar to the regulation of corporate credit risk, regulators could introduce risk weights for sovereign debt in the computation of banks capital requirements, or concentration limits for sovereign debt holdings, or both. Both alternatives would imply a regulatory recognition that sovereign risk is currently not properly reflected. The introduction of risk weights would, however, have large distributional consequences across eurozone member countries due to differences in banks' existing sovereign debt holdings and differences in credit quality across eurozone sovereigns (Baglioni and Bordignon, 2019). For the same reasons, the introduction of concentration limits that depend on sovereign credit-risk would also result in large distributional consequences. However, the introduction of uniform concentration limits across eurozone sovereigns would entail substantially lower distributional consequences, and particularly address banks' 'home bias'. Specifically, banks would not be affected by the credit risk of its domestic sovereign, but exclusively by the degree of its concentrated exposures to individual sovereigns (most prominently being the domestic sovereign). In comparison to risk weights, uniform concentration limits would also avoid automatically increasing capital requirements upon downgrades during sovereign debt crises, and consequently avoid the associated negative consequences on economic activity (Zettelmeyer, 2018). Nevertheless, both risk weights and concentration limits would heterogeneously affect the funding conditions of sovereigns and potentially impair financial stability, as the domestic banking sector of riskier and highly indebted countries might substantially reduce their provision of credit to their domestic sovereign. Nevertheless, if regulatory privileges on sovereign debt are removed, private sector involvement in future debt restructurings becomes more credible.[17] Consequently, market discipline would be strengthened and banks might become more cautious in the provision of credit to highly indebted sovereigns ex ante. To mitigate spillovers from changes in the regulation of sovereign debt exposures, exclusion of some sovereign debt exposures from regulatory changes and long transition periods might be applied.

The establishment of the European Banking Union is another key reform package to reduce the 'sovereign-bank nexus' by cutting the link from bank risk to sovereign risk (Strauch, 2019). While the single supervisory mechanism and the single resolution mechanism have been established and a common backstop to the single resolution fund is politically agreed, the introduction of a European Deposit Insurance Scheme (EDIS) remains open. Currently, bank deposits are insured by national deposit insurance schemes, and domestic sovereigns serve as a fiscal backstop. Once deposits are in doubt in major crises and the sovereigns' capacity to insure deposits is questioned, bank-runs can occur and put liquidity strains on the national banking system.[18] With an EDIS, national deposits would be guaranteed at the European level, so that the risk of bank-runs on national banking systems can be substantially reduced. The introduction of an EDIS can consequently reduce the intertwinedness of risks between banks and sovereigns, and enhance financial stability (Schnabel, 2018). Nevertheless, as any insurance scheme, the creation of an EDIS also raises serious moral hazard concerns. Deposit insurance fees need to be differentiated to account for the associated risks, and might consequently vary across banks and countries to reflect the risk profile of individual banks and country-specific risks (Bénassy-Quéré et al., 2018). However, only an equal protection of insured deposits across banks and countries

[16] Another reform to weaken the 'sovereign-bank nexus' is the introduction of a Eurozone-wide safe asset (e.g. Brunnermeier et al., 2017).

[17] Credibility can also be increased by ensuring a more efficient and timely debt restructuring through amendments of legislation (see section 4).

[18] In addition, governments can face a debt rollover crises due to the missing lender of last resort in the Eurozone government bond market. Reforming the ESM to provide short- to medium-term liquidity for pre-qualified sovereigns addresses this problem (Andritzky, 2018).

could ensure the highest level of trust of an EDIS. Another concern is that risks from national policies of member states could be shifted to the European level. Finally, legacy issues in the form of the 'home-bias' in national banks' government bond holdings and non-performing loans need to be taken into account, as risk-sharing might otherwise turn into a collectivization of risks and thus transfers. The completion of the European Banking Union with the introduction of an EDIS and removing regulatory privileges for banks' sovereign debt holdings are mutually reinforcing and might thus be coordinated (Bénassy-Quéré et al., 2018).

6.3 Conclusion on safeguards for financial stability

The 'home bias' of peripheral banks' sovereign debt holdings and the 'sovereign-bank nexus' strongly intertwine the credit risk of sovereigns and credit risk of their domestic financial sector in the eurozone. Restructuring sovereign debt consequently entails significant economic costs, so that policies adopted during the eurozone crisis (except for the Greek debt restructuring in March 2012) aimed at bailing-out troubled sovereigns. Removing regulatory privileges for sovereign debt in the banking regulation and completing the European Banking Union through the introduction of an EDIS can both substantially reduce the link between the credit risk of sovereigns and credit risk of their domestic financial sector. However, removing regulatory privileges might itself negatively affect financial stability and introducing an EDIS requires a political consensus on legacy issues, so that transition periods might be applied. However, establishing liquidity provision to solvent but illiquid sovereigns through the ESM/EMF (see section 2) would heavily dampen the negative temporary effects of creditors' provision of liquidity to sovereigns. Once these reforms would have significantly reduced the economic costs of sovereign debt restructurings, debt restructuring in the eurozone would become more credible. A credible sovereign debt restructuring regime could then strengthen the ex-ante market discipline for sovereigns, and consequently also address the build-up of sovereign debt before it becomes unsustainable.

7. Conclusion

Our analysis along different dimensions of a SDRM has clarified that there is no such thing as the optimal SDRM. Its design choices imply decisions on trade-offs and judgements that will differ according to national interests and perceptions of relative costs. For example, politicians from low credit risk countries might be more concerned about a "late" restructuring and the possibility of transfers compared to politicians from high credit risk countries. Further, those who regard sovereign bond markets and the banking system in the euro area still as highly fragile might put more emphasis on minimizing the risks from an "early" debt restructuring, even if this might imply liquidity assistance to countries with unsustainable debt levels.

Another overriding insight from our analysis is that the search for a SDRM design should be aware of complementarities. For example, progress on the financial stability frontier can alleviate trade-offs in other dimensions, such as the SDRM trigger. Once the sovereign-bank nexus is successfully loosened, instability risks of a more automatic SDRM trigger would be considerably reduced. Hence, an ambitious SDRM would be consistently embedded into a package of other institutional and regulatory reforms, such as dealing with banks' excessive exposure to sovereigns or legacy issues of sovereign indebtedness. Another example concerns the complementarity between institutional assignment and the SDRM trigger: If the responsible institution for the DSA possesses a high reputation of impartial judgements, concerns about a non-automatic and more discretionary SDRM trigger would decrease considerably. Hence, design choices in one dimension can result in constraining or relaxing consequences for choices

in other dimensions. In sum, our analysis implies that there is no convincing reason to further taboo the search for a euro area SDRM.

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2 Lessons from history and the literature

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CEPII

1. Despite their frequencies, sovereign debt defaults are still managed on a case by case basis

The first sovereign defect whose history has preserved the memory dates back to the 4th century BC. Ten Greek cities had then not repaid a loan that the temple of Delos had granted them (Winkler, 1933). Philip II of Spain, King of Spain from 1555 to 1598, defaulted four times to his foreign creditors, mostly Genovese bankers. Over the period from 1800 to 2009, Reinhart & Rogoff (2009) identify "at least 250" sovereign default events on foreign public debt and "at least 68" domestic public debt default events. Sovereign debt crises are therefore long-standing and frequent.

Nevertheless, they remain managed on a case-by-case basis, unlike those of companies that are the subject of routine legal proceedings, at least in the non-financial sector.

The difficulty in dealing with sovereign debt crises is due to the nature of borrowers, which limits enforcement measures against them, but also to the recent redevelopment of the international bond market for sovereign debt and its derivatives, which has multiplied creditors and encouraged opportunistic behaviors.

Indeed, the only mechanism available "to help countries whose debt is unsustainable to resolve this problem in an orderly and rapid manner... presupposes that the international community takes the place of private creditors" Krueger (2001). In doing so, the international community uses mechanisms, the IMF or regional financial arrangements, whose vocation is to resolve liquidity crises and not solvency crises. It also sustains a lasting sentiment on the investors' side that sovereign debt is riskless, hence generates a moral hazard problem.

Modern corporate bankruptcy law, which formalizes procedures for the continuation of operations (receivership) or the liquidation of assets in the event of non-payment by companies, developed from the middle of the 19th century onwards, in parallel with the industrial revolution and the development of modern finance. It is seen as an essential element of the dynamics of capitalism.

These procedures are initiated either by the debtor companies themselves or by their creditors and subject to court decisions. They are managed in unusually short time frames for legal proceedings.

This efficiency is made possible by the ability of the judicial authority to have the assets of companies seized for the benefit of creditors but also to impose on the latter a reduction of their due.

This contrasts with the treatment of sovereign debt, which generally does not provide for default in contracts to which it is subject and to which no general legal framework is applicable.

This lack of legal formalism is linked to the sovereign status of the debtor and the impossibility for creditors to enforce their rights. It leads to the implementation of ad hoc solutions that depend on the capacity but also on the willingness of debtors to fulfill their obligations arising from the debt contracts they have signed.

As a result, sovereign defaults, when they occur, are managed on a case-by-case basis.

2. An abundant economic literature underscores the sub-optimal nature of case-by-case management of sovereign debt default

An abundant body of economic literature highlights the costs associated with the case-by-case management of sovereign debt defaults.

i. Negotiations between creditors and debtors are lengthy and their outcome is uncertain (Oechsli, 1981)

ii. Defaults are usually pronounced too late because of negotiation strategies by some creditors (Rogoff and Zettelmeyer 2002) and, above all, because of the reluctance of political leaders to declare it. Borensztein and Panizza (2009) suggest that, since defects are very often followed by changes in political staff, the latter is tempted to extend the deadline to protect his own career. Another - more altruistic - reason that can motivate political leaders is the desire to persuade creditors that the default is not strategic but inevitable, as the suffering inflicted on the country's population would attest. Zettelmeyer et al (2012) estimate that sovereign debt restructuring/default typically occurs six months to two years after optimal timing. This delay can cause damage to the economy of the debtor country, linked either to excessively depressive policies implemented by its leaders or to the consequences of a loss of access of all the country to all external sources of financing;

iii. Over-indebtedness resulting from the moral hazard made possible by the intervention of the IMF and other international lenders (Barro 1998, Rogoff and Zettelmeyer 2002). Recognition of this problem would encourage private sector participation in debt restructuring prior to IMF intervention in a transparent and predictable manner.

iv. Free rider behaviors: the absence of a coordination mechanism that forces all creditors to accept losses favors those who stay away from restructurings while seeking to benefit from the room for maneuver created by the latter to ensure that their entire claim is repaid, even to the detriment of other creditors who have accepted restructuring. This behavior is that of vulture funds that buy back debt from defaulting debtors at low prices on the secondary market with the explicit intention of taking legal action after the majority of creditors have reached an agreement with the defaulting country (for a discussion, see Panizza et al. 2009, on the Argentine example, see XX). In addition, creditors who have hedged themselves against the risk of default by derivatives (credit default swaps or CDSs) may have an interest in not having a restructuring take place.

v. The absence of any difference in treatment between old and new creditors that favors excessive debt (debt dilution). Debt dilution refers to a situation in which, when a country approaches financial distress but default has not been pronounced, new issues may be at the expense of previous creditors (Bolton and Jeanne, 2011). In the corporate world, courts may decide that newer creditors will be treated less favorably than older creditors. After a sovereign default, all creditors, old and new, generally receive the same treatment.

vi. The absence of interim financing during the restructuring period, after the default has been pronounced, to facilitate foreign trade or to finance the current account deficit. The absence of this type of financing can amplify the crisis and further reduce the ability to pay in the future. In private restructurings, these new claims have priority (senior) over older claims. For public debtors, this notion of priority exists only for official creditors (moreover, it is generally recognized only de facto and not de jure).

vii. Calculation bases may be truncated. Zettelmeyer (2012) and Sturzenegger and Zettelmeyer (2007) and Wright (2012) argue that what is presented as a large debt "haircut" may have a more limited impact on the debt burden. This difference is related to the discount rate used in the calculations.

Some authors have nevertheless pointed out that some debt crises had found rapid solutions in the 1990s, which were approved almost unanimously by creditors. Sturzenegger (2002) highlights the interest bondholders have in participating in a debt swap: new securities are much more liquid than old ones and greatly reduce the risk of outright default. The role of vulture funds in the restructuring of Argentina's debt over the next decade restricts the relevance of this analysis.

3. Starting in the mid-50s, the creditors club solutions have prevailed for the restructuring of loans contracted by developing countries

During the three decades that followed the Second World War, sovereign debt crises affected mostly developing countries that were indebted, either to banks located in industrialized countries, which often benefited from guarantees from their home countries in the framework of government sponsored credit guarantees procedures, or directly to the treasuries of developed countries.

This context involved a relatively limited number of creditors, often public, and debtors, by definition also public. It encouraged the emergence of informal "club" solutions aimed at streamlining sovereign crisis management by allowing the development of a body of substantive and formal rules that could make the treatment of defaults more equitable among creditors and debtors. At the same time, they constituted a form of cartelization of creditors that could strengthen their powers vis-à-vis debtors.

The Paris Club was created in 1956 to deal with claims on sovereign debtors held by sovereign creditors themselves. It has 20 permanent members. Between 1956 and the end of 2017, 433 agreements concerning 90 debtor countries have been signed within this framework. The agreements signed between 1983 and 2017 covered 583 billion in debt. The French Treasury provides the Paris Club with a light secretariat.

Bilateral public creditors have also collaborated with the IMF and other multilateral financial institutions under the Heavily Indebted Poor Countries (HIPC) initiative launched in 1996 and complemented in 2005 by the Multilateral Debt Relief Initiative (MDRI). 39 countries have been declared eligible or potentially eligible and debt relief under the HIPC initiative was estimated at about US$76 billion in net present value at the end of 2010.

The London Club, created in 1976, brought together on a case-by-case basis at the request of a sovereign debtro its private creditors. The London Club did not have a permanent structure. To the best of our knowledge, no overall assessment of its activity is available.

While financial markets were developing very rapidly in the 1980s, the Brady Plan, which was implemented at the end of the decade, marked a twofold evolution.

On the one hand, it enshrined the fact that the creditors waived part of their claims after years of procrastination during which the creditors thought that a simple change in the debt repayment conditions would suffice. On the other hand, it led to an exchange of loans for bonds, the amount of which was reduced but whose repayment was guaranteed by a special fund financed in particular by loans from the IMF and the World Bank and invested in US Treasury bonds.

The Brady plan thus boosted the development of the international sovereign bond market with reference to New York State law.

This market also benefited from the profound structural transformations that world finance underwent in the 1980s and 1990s: strong growth in sovereign debt, financial deregulation, increasing securitization of financial assets, and, from the early 1990s, the very rapid increase in international capital flows.

4. Attempts to design a bankruptcy procedure for sovereign bond debtors failed but bond covenants making creditors more responsible developed

Sovereign bond market developed continuously despite the successive crises it went through:

- emerging markets crises of the 1990s and early 2000s (Mexico in 1994-1995, Emerging Asia, Brazil, Russia, Turkey and, above all, Argentina, which unilaterally defaulted on its entire $100 billion debt in 2001).

- the 2008-2009 financial crisis and, above all, the crisis in the Eurozone starting in 2010, which marked the return of sovereign debt crises in developed countries. In February 2012, Greece carried out the largest financial restructuring in history (200 billion euros) resulting in significant losses for creditors (60% to 65% of the net present value of claims).

These successive crises have prompted numerous reflections and initiatives aimed at facilitating sovereign debt restructuring. Over the past fifteen years, three categories of solutions have gradually emerged:

a. The statutory solution

The idea is to apply to sovereign debts a mechanism inspired by the bankruptcy law of private debtors. The main initiative in this area came from the IMF during the Argentine crisis. The then Deputy Managing Director, Ann Krueger, proposed a Sovereign Debt Restructuring Mechanism (SDRM) (Krueger 2001). The SDRM would have applied to all IMF member countries (universality principle) and to the total debt of the country concerned (aggregation principle). It would thus have prevented a minority of creditors from blocking a restructuring and would have protected the new loans from the restructuring. The IMF would have made its expertise on debt sustainability available and could have provided new money. The SDRM would have taken the form of an amendment to the IMF Articles of Agreements. The mechanism could only have been activated at the request of the debtor country. The SDRM provided for the creation of a specialized forum, the Sovereign Debt Dispute Resolution Forum (SDDRF). The SDRM was finally be rejected in 2003.

In an in-depth analysis of the 2003 plan, Bolton and Skeen (2007) considers that while the SDRM project constituted an important step forward, it remained insufficient or incomplete on several points. According to him, many issue were not dealt with properly : the freezing of individual debt collection procedures initiated by creditors, the methods of debt aggregation, the way in which debts already restructured by the Paris Club would be integrated, the management of priority creditors and the conditions under which priority would be given to new financing, the guarantees of independence and the management of conflicts of interest of members of the Sovereign Debt Dispute Resolution Forum (SDDRF).

The Eurozone crisis has prompted a renewed debate on statutory solutions. Gianviti et al (2010) proposed the adoption of a treaty in the Eurozone alone that would regulate the legal regime of all sovereign debt issued by member states. Economic and financial expertise would be provided by the Commission, financial assistance by the European Financial Stability Fund, now the European Stability Mechanism (ESM). In 2013, the Committee on International Economic Policy and Reform (2013) proposed a European Sovereign Debt Restructuring Regime (ESDRR) with three levels of ESM intervention: automatic and unconditional if public debt does not exceed 60% of GDP, conditional on economic policy measures between 60% and a threshold to be defined and conditional on debt restructuring beyond this threshold.

At the global level, the Committee on International Economic Policy and Reform (2013) proposed the creation of a new IMF financing line (Sovereign Debt Adjustment Facility - SDAF) inspired by the HIPC initiative but which would apply this time to private and no longer public creditors. The central idea is that countries, whose debt is considered unsustainable, according to criteria of level and vulnerability to be defined but pre-established, would only have access to IMF financing if their debt is restructured.

On 9 September 2014, the UN General Assembly adopted a resolution by which it "decides to elaborate a multilateral legal framework applicable to sovereign debt restructuring operations". 124 developing and emerging countries (including the BRICS) voted in favor, 41 abstained (including France), 11 voted against (including the United States, the United Kingdom and Germany). France has expressed its wish that this problem should be dealt with at the IMF and not at the UN.

Certainly ideal in theory, a global statutory solution is unlikely to emerge. It faces with the great difficulty of verifying the commitments made by sovereign States, the impossibility of imposing enforcement measures on them at least on their national territory and the political reluctance to create a new international mechanism, while many do not function satisfactorily.

b. The contractual solution

b1. <u>The collective action clauses (CACs)</u>

Contractual solutions to the restructuring of bonds known as collective action clauses (CACs) mostly concern (i) the possibility of amending the terms of the bond contract (amendment clause), (ii) the way

in which the various debts of the same issuer are aggregated and the qualified majority rules that will be applied (aggregation clause) and (iii) the terms under which the debtor may be declared in default (acceleration clause).

CACs had existed for private debt since the 19th century in English law but had not been implemented in the United States where debt restructuring was traditionally a matter for the courts. As the case of Argentine debt shows a posteriori, the intervention of a third-country judge is particularly delicate for conflicts between private creditors and public debtors and the idea of introducing CACs into emerging-country bonds issued under the New York law was explored from the early 2000s onwards.

After the failure of the IMF sponsored SDRM, CACs began to be introduced into sovereign bonds of emerging countries in 2003, at the instigation of the US Treasury, which convinced Mexico to use them. According to an estimate published in 2012 (Bradley and Gulati, 2013), these clauses covered 90% of sovereign issues under New York State law. According to the same study, the introduction of CACs does not have a negative impact on borrowing costs.

The 2012 treaty creating the European Stability Mechanism makes it mandatory to introduce CACs into sovereign bond issues in the Eurozone. The fact that most issues are governed by the law of the issuing countries reinforces the powers of debtor governments, which can also use the law to specify the holdout creditors regime.

The Argentine litigation has led to a redefinition of the traditional *pari passu* clause included in bond issues to restrict the rights of creditors who would voluntarily avoid a restructuring accepted by the majority (holdout creditors).

In a report published in May 2014, the IMF pleaded for:

i. The strengthening of the contractual framework through the modification of *pari passu* clauses to prevent the courts from ordering debtors to pay recalcitrant creditors each time they pay restructured creditors so as to prevent the repetition of a scenario to Argentina a
ii. The introduction of aggregation clauses, in the event of creditors voting on a debt restructuring, which restrict the obstruction capacity of minority creditors, privileging the single vote of all creditors on the overall restructuring.

In August 2014, the International Capital Markets Association (ICMA) published, with the support of the Fund, a new standard *pari passu* clause that meets the criteria defined by the IMF and a revised version of its standard collective action clauses for sovereign bonds. These new provisions offer three alternative aggregation procedures (Gelpern 2014) of which only the third fully meets the criteria defined by the IMF:

i. The grouping of bonds into "series". The terms of each series could be amended by a three-quarters majority of creditors;
ii. The grouping of multiple series. The adoption of new terms requires a simple majority vote of at least half of the series representing two-thirds of the combined outstanding amount. A series, which does not obtain a vote of 50% of the creditors in favor of the restructuring, may refuse to have it applies. Bond issues have already taken place under this regime under New York and English law. This regime applies to the long-term bond issues of the Eurozone countries since 2013.
iii. The third option allows creditors of several series to vote in a single vote on identical terms by eliminating the possibility for a creditor or a series not to be bound by a three-quarters majority vote.

For Gelpern (2014), past experience suggests that while contracts are based on ICMA standard clauses, they rarely transpose them literally. The changes that will result from this initiative are therefore likely to be only "partial and fragmented". Moreover, these clauses are not retroactive, so it will take years or even decades for the stock of sovereign debt to be affected by these changes.

The Canadian Think Tank CIGI proposes to associate to this contractual approach a light Club structure by creating a Sovereign Debt Forum (SDF), which would have a vocation to maintain a register of good practices and facilitate the exchange of information (Gitlin et al, 2013 and 2015, Haley, 2015).

b2 The automatic debt restructuring (state contingent debt)

Grossman and Van Huyck (1988) propose an analysis of sovereign debt as a financial instrument to which is attached the implicit idea that the borrower can adjust his financial obligations if it is confronted with an exceptionally bad situation. The sovereign debt would therefore implicitly be contingent on a certain state of the world. For these authors, creditors would make the difference between defaults that are "excusable" and a pure and simple repudiation of debt.

The idea of introducing certain arrangements for restructuring sovereign debt in the initial contract makes this implicit clause explicit. It was implemented in the 1953 German debt restructuring agreement, which made payments conditional on Germany generating a trade surplus and limiting them to 3% of export earnings, and provided that part of the amounts would only be due after a hypothetical reunification or the attachment to Germany of Prussian territories now in Poland and Russia, a clause that was later ditched.

As the German restructuring illustrates, subjecting the repayment of the debt to certain conditions is only possible if they are formulated precisely and if their possible realization is easily verifiable.

To date, it has not been applied to initial issues, but certain principles have been implemented, in the form of warrants associated with the new bonds, as part of the restructuring of Greek and Argentine debt (Gitlin et al 2015). Such ideas are at the core of the current work on GDP linked bonds sponsored by several central banks.

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3 Regulating sovereign debt restructuring in the eurozone[19]

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Introduction and summary

We discuss the proposal, recently circulated in the policy debate in the euro zone (EZ), related to the restructuring of the outstanding government securities of countries featuring a high level of the debt-to-GDP ratio. We believe that a clear distinction should be made between automatic restructuring rules and discretionary decisions on this matter. While the former are dangerous for their destabilizing potential, the latter can be seen with some favor. We argue below that any restructuring solution should be left to the decision process related to the financial assistance of the ESM; the legal framework for imposing a restructuring as a condition to get the ESM aid is already in place and compelling reasons to revise it do not seem to exist. The design of Collective Action Clauses (CAC) can instead be improved by introducing the so-called "single limb aggregation" rule: one vote for all the bonds involved in a restructuring offer, rather than for every single issue.

The destabilizing potential of any automatic debt restructuring mechanism is particularly strong in the EZ, given the lack of a clear institutional framework enabling the Eurosystem to play the role of lender of last resort (LLR) for the public sector: this is an anomaly of the EZ architecture, in comparison with other countries. This anomaly makes the market for government bonds in the EZ exposed to multiple equilibria and creditor runs. In addition, it has induced the banking sector to play the role of LLR during the sovereign debt crisis of 2011-2012, thus increasing substantially its exposure to the sovereign risk and contributing to the loop between bank and sovereign credit risks. We address this issue and argue below that the introduction of concentration limits is preferable to assigning positive risk weights to government securities in the computation of bank capital requirements, since the former solution would be less distortive than the latter. However, the introduction of concentration limits should go in parallel with some institutional reforms addressing the above mentioned anomaly of the EZ institutional framework.

We organize our contribution along three dimensions of the Policy Paper: 1-Institutional involvement, 4-Start of sovereign debt restructuring, and 5-Requirements on the environment.

1. Institutional involvement

The legal framework for negotiating a restructuring of the outstanding public debt of a EZ member country is already in place: whenever a debt rescheduling and/or a haircut on outstanding bonds is believed to be necessary, together with the official financial support, to put the debt of a country on a sustainable path, such measures can be imposed as a condition to obtain the requested financial assistance.

More specifically, the Treaty establishing the ESM states that, when a member State addresses the ESM for financial assistance, the EU Commission, in liaison with the ECB, should be entrusted with the task

[19] This contribution is based on our paper "Sovereign debt restructuring: rules versus discretion" presented at the ZEW Conference on "Regulating sovereign debt restructuring in the Eurozone" (Mannheim, June 2018) and eventually published as LUISS Policy Brief (July 2018).

"to assess whether public debt is sustainable. Wherever appropriate and possible, such an assessment is expected to be conducted together with the IMF" (art. 13 - 1.b). To be eligible for financial support, a member State must also agree with the ESM a Memorandum of Understanding (MoU), detailing the conditionality attached to the financial assistance facility. The MoU has to be negotiated between the government and the EU Commission, again in liaison with the ECB and possibly with the IMF (art. 13 - 3). Finally, payment of the different tranches of ESM support to a country is conditional on the fulfillment of the conditions specified in the MoU.

It is not obvious which benefits would come from delegating the sustainability assessment to some other body, such as the ESM, as it is proposed by some. One potential advantage would be to leave the decision, or at least the technical assessment, to some independent technical body, potentially less politically biased than the Commission (that however works together with the ECB and potentially the IMF). A technical body would also be less affected by the "too late, too little" syndrome: politicians often tend to delay fixing up a critical situation in order to gain sufficient consensus. However, in its present format the ESM has a governance which is even more political than the Commission (not to mention the IMF or the ECB), so that its decisions are also likely to be influenced by political bias.[20] This attribution of competence could only follow if the ESM were deeply transformed into a technical institution more similar to the IMF and with less direct influence from member countries in its governance[21].

4. Start of sovereign debt restructuring

Any rule introducing some automatic debt restructuring, to be triggered when a government asks for the financial assistance of the ESM (or even worse when the debt-to-GDP ratio reaches a pre-defined threshold), is likely to have destabilizing consequences on the market of government bonds. The EZ is presently affected by a financial fragility, due to the lack of a clear institutional framework enabling the central bank to play the role of lender of last resort (LLR) for the governments of the area (see point 5.1 below). In this context, the market for government debt is severely affected by multiple equilibria, where a speculative attack on a country might lead to a self-fulfilling default event. Market participants' expectations are crucial in determining whether such an event actually occurs or not. An automatic restructuring rule would presumably work as a coordinating device with a perverse effect: whenever a government discloses its intention to ask for the financial assistance of the ESM (or the debt-to-GDP ratio of a country approaches some critical threshold level), investors would start betting on the restructuring event and selling the government securities of that country, possibly triggering a sovereign debt crisis. A similar point has been made by Wolff (2018) who argues for some "constructive ambiguity" concerning any debt restructuring decision. Removing such ambiguity would mean that market participants can more easily calculate when and how to speculate against a country. Earlier market panic would likely result. This argument is made stronger by considering that the EZ is affected by a loop between the sovereign and the redenomination risks (the latter is the risk that a country might exit the EZ), as the sovereign debt crisis of 2010-2012 has made evident (as argued by Bini Smaghi 2018).

For those reasons, any restructuring solution should be left to the discretionary decisions related to the financial assistance granted by the ESM to a member country. Leaving debt restructuring to a case-by-

[20] The political bias in the sustainability assessment became evident from the divergence between the European institutions (Commission and Ecb) and the IMF at the outset of the Greek crisis, when the latter called for a debt restructuring that was opposed by the former.

[21] Another, perhaps better, alternative could be the European Fiscal Board (EFB), which is by mandate, and selection of members, independent by both member countries and the Commission. However, the EFB should be considerably strengthened to play this role. At the moment, it would not have enough financial and human resources to perform these new activities in addition to its statutory aims.

case decision avoids creating "triggers" that would automatically start the restructuring process, producing a self-fulling run on the public debt of the country applying for the ESM financial facility.[22]

An issue that has not been sufficiently discussed by the proponents of automatic or semi-automatic debt restructuring is the consequences of a major restructuring of the debt in a large country. This would be accompanied by severe losses of the holders of public debt, beginning with the banking sector of the country under consideration but also extending to other national and international holders. This would likely produce systemic effects on the economy of that country, and by contagion on other countries of the Eurozone, probably stretching to the limits the resources available to the ESM for financial assistance. For large debt restructuring in a major country it is even doubtful than an "orderly" restructuring could ever take place. Debt restructuring is then a last resort option that need be considered, but with great caution.

5. Requirements on the environment

5.1 The euro-zone anomaly

The EZ institutional framework is affected by a fundamental flaw: the formal prohibition to the Eurosystem to be the LLR for the governments of the area. This is stated in article 123 of the EU Treaty: overdraft facilities and direct purchases of debt instruments, issued by central and local governments, by the Ecb and national central banks are prohibited. This prohibition makes the Eurosystem quite different from all the other central banks in Western countries, which are free to buy (domestic and foreign) government securities.

It should be noted that the prohibition refers to *direct* funding of governments by the Eurosystem. The latter is allowed to buy governments securities in secondary markets, as part of its activity of monetary policy implementation. This is stated in article 18 of its Statute: the ECB and the NCB may operate in the financial markets by buying and selling outright and under repos any marketable instruments, including government bonds. However, the prohibition introduced by article 123 provides a support to those arguing that programs like the Outright Monetary Transactions (OMT) and the Public Sector Purchase Program (PSPP) are *de facto* a violation of the EU Treaty, despite the fact that they have to be implemented in secondary markets for debt instruments: in particular, such programs could be seen as "monetary funding" of public deficits. As a consequence, even when the ECB started playing the role of LLR for governments in the Summer of 2012 (following the famous words "whatever it takes" by President Mario Draghi) and even more so since March 2015 by adopting the QE strategy, those actions have been questioned under legal and political grounds, raising several controversies among member countries and apparently within the ECB Governing Council.

The "no monetary funding of public deficits" clause has the following implication. When the governments of the EZ issue debt securities denominated in euro, it is *as if* they were issuing debt denominated in foreign currency, since the amount of currency that can be issued is outside of their jurisdiction, and they are prevented from making any pressure on the central bank to print money to finance their liabilities. To the contrary, governments of other countries (e.g. the UK, US, and Japan) can rely on the ultimate responsibility of the central banks to preserve the liquidity and solvency of the governments of their own countries. This essential difference is well known by financial markets' participants and it is incorporated into the yields of public debt securities. The situation in the EZ has

[22] A similar view has been expressed by the Vice-President of the Ecb: "*The agreed and settled framework of asset purchase programmes stabilised the euro area and that would be disturbed by the introduction of a SDRM (Sovereign Debt Restructuring Mechanism), with thresholds and automatism, or by simply strengthening the presumption of a debt restructuring whenever a country has to ask for an ESM programme. Contagion and self-fulfilling crises would return. In my view, the fact that the ESM legislation already foresees that the ESM must ask the Commission for a debt sustainability analysis before starting a country programme and that euro countries sovereign bonds are mandatorily issued with Collective Action Clauses, should be enough to dispel the concerns of the proponents of a SDRM.*" See V. Costancio (2018), page 5.

changed to some extent since the summer of 2012, thanks to the famous speech by President Draghi ("whatever it takes") and to the subsequent adoption of the OMT program by the Ecb. However, even the adoption of the OMT and eventually of the PSPP, which has made the Eurosystem playing *de facto* an LLR role, did not solve the underlying institutional problem: such a role remains controversial and it is played under a confused institutional framework, according to which a LLR role must be justified by the official target of price stability.

The lack of a central bank explicitly playing the role of LLR for governments has two negative consequences that are worth stressing. First, the market for government bonds lacks a fundamental stabilizing tool in the face of possible multiple equilibria. The academic literature is pretty clear on the possible consequences. Calvo (1988) has shown that the market for sovereign bonds is exposed to multiple equilibria: a good one and a bad one. The crucial variable driving the equilibrium is the interest rate, which in turn is driven by expectations: hence the self-fulfilling nature of a liquidity crisis, which can degenerate into an insolvency. It is true that sometimes a speculative attack can be triggered by some fundamental news; however, the lack of a stabilizing tool can still work as an amplifying mechanism, making a limited problem have extreme consequences. The Calvo argument parallels the well-known Diamond-Dybvig (1983) model of bank runs. In both cases, government bonds and bank deposits, the central bank can play a crucial function by coordinating expectations on the good equilibrium. From this perspective, the fragility of the Eurozone has become evident during the sovereign debt crisis of 2010-2012: during that period, expectations of a possible break-up of the euro-area went together with doubts about the solvency of some high-debt countries, leading to extremely volatile levels of interest rates which in turn put the solvency of some member States at risk. The multiple equilibria approach has been used to explain the fragility of the EZ by (among others) De Grauwe (2011), De Grauwe – Ji (2013) and Gros (2012). On theoretical grounds, Corsetti and Dedola (2013) have extended the Calvo's framework to the case where a default of the public sector can be due either to a fundamental fiscal stress or to a coordination failure among its creditors: they show the crucial role of the central bank in ruling out the latter possibility.

Second, lacking a specific LLR for the ECB, national banking systems of the EZ have been induced to play the role of LLR, possibly under the moral suasion exerted by the national governments (see for instance the evidence provided by Ongena – Popov – Van Horen, 2016). Since the outset of the sovereign debt crisis in 2010, the amount of domestic government bonds held in the portfolios of EZ banks has risen by more than 40%: from under 1.000 billion euro to nearly 1.400 billion. This pattern has been particularly strong in Italy and Spain, where the banks' portfolios of government securities have doubled between 2010 and 2013. Therefore, the exposure of the banking system to the sovereign risk has risen dramatically, fueling the so-called "diabolic loop" between the default risks of the bank and of the public sectors of the economy, due to the banks' holdings of domestic public bonds coupled with the bail-out of banks by governments. The risk concentration, measured by the share of domestic public bonds held to the total assets of banks, has risen from 2.7% to 4.5% between 2010 and 2014 for the EZ as a whole. Again, this pattern has been particularly strong in Italy and Spain, where this measure of risk concentration has reached a level around 10% in 2013/2014, but it is present in all the EZ countries (with the exception of France).[23]

The most direct way of overcoming the EZ anomaly is to remove the prohibition, which currently applies to the ESCB (European System of Central Banks), of purchasing debt instruments directly from governments. Such prohibition should be removed at least as far as central governments are concerned, possibly continuing to be in place for regional/local authorities and other public bodies. This solution would let the ESCB free to play the role of LLR of national governments, by purchasing public debt securities both in the primary and secondary markets. Thanks to this institutional reform, programs like OMT and PSPP would no longer be as controversial as they have been so far. The institutional framework of the EZ would be more in line with that of other major western countries. Notice that the

[23] See Baglioni and Bordignon (2018) for more detailed data on this matter.

ESCB would not have any obligation to buy government bonds: it would just be allowed to do so, in case the Governing Council of the ECB decides that such a tool should be employed to fulfill its mandate**.** The independence of the ESCB is guaranteed by its Statute in several ways, and such safeguards should be enough to avoid that the central bank is somehow forced to bail out insolvent governments. Its interventions should be limited to tackle illiquidity problems created by speculative attacks. Notice also that, under this proposal, the prohibition to allow overdraft facilities to the public sector would remain, since this tool might be used by governments to raise debt with the central bank at their discretion, albeit within the limit given by the maximum (negative) balance allowed on the Treasury account with its NCB. We understand that this proposal is controversial, and we discuss it in more detail in a related paper (Baglioni and Bordignon, 2018) where we suggest – as a second best solution – that the LLR role of the Eurosystem could be limited to some kind of European "safe bonds", while leaving the situation as it is as far as national debt securities are concerned.

5.2 Limiting banks' holdings of government bonds

The concentration of risk, due to the strong exposure of banks to the domestic public sector, raises concerns for the stability of the financial sector. As we argued above, the current situation is partly a side effect of the lack of a central bank playing the role of LLR for governments. In recent years (since the beginning of the PSPP in early 2015) the exposure of the European banks to the sovereign risk has decreased, but the level of risk concentration remains high in some countries, namely Italy, Spain and Portugal. It is true that banks are exposed to the macroeconomic shock, represented by a default of the domestic public sector, independently of their direct exposure through their holdings of government securities. However, the latter are an important channel able to amplify the negative impact of a sovereign default: indeed, in high debt countries the link between sovereign and bank default risks is stronger for banks with a larger exposure to the public sector, as documented by Altavilla *et al.* (2016) using CDS premia.

In principle, there are two ways to tackle this problem. One is to assign a positive weight to government securities in the computation of the Risk Weighted Assets (RWA) that are used to determine the capital requirements (CET1 ratio and Total Capital Ratio) imposed by bank regulators. The other way is to introduce some limits to the holdings of domestic government securities into the banking regulation.

The first solution (positive risk weights) seems to be unacceptable, since it would imply that the public debt of countries with high credit ratings (like Germany and France) would continue to enjoy a zero weight, while other (high debt) countries would be given a weight between 50% and 100%. Banks located in high debt countries would be penalized, since they would be imposed more demanding capital requirements than banks located in other countries: this disparity would introduce a distortion into the competitive game among banks at the cross-country level. Moreover, to the extent that some home bias would still remain, this would also imply more difficult access to credit for companies of high debt countries, particular small and medium firms that are more dependent on domestic credit, thus perpetuating a condition of competitive dis-advantage.

The second solution (limiting the holdings of domestic public debt) seems to be much less distortive, by imposing a concentration cap to be applied uniformly to the government bonds of any country. Furthermore its impact, in terms of disposal of securities by banks and market price drop, might be limited through a gradual introduction of the regulatory constraint. This constraint might be introduced with some degree of flexibility, along the lines followed by the capital requirements, which have both a Pillar I and Pillar II components, and a macro-prudential dimension as well. This solution might give the supervisory authorities, endowed with the power of applying the concentration limits, the possibility of reacting to a shock, affecting the liquidity of a sovereign borrower, by softening the constraint.

For the reasons explained above, namely for the trade-off between the stabilizing functions of the banking sector and of the central bank in the market for government securities, we believe that the introduction of regulatory limits to the holdings of government bonds by banks should go in parallel

with some institutional reforms able to remove the EZ anomaly addressed in point 5.1. Absent such reform, the concentration limit might have destabilizing consequences and should therefore be introduced with caution and a high degree of flexibility.

5.3 Collective Action Clauses (CAC)

The ESM Treaty (art.12.3) requires that, as of January 1st 2013, all euro area government securities, with maturity above one year, include CAC with identical legal impact across member countries. This provision is intended to facilitate the restructuring of securities, by a mechanism that should limit the "hold-out" problem: once a qualified majority of bond-holders accept a restructuring offer, this applies to all bond-holders. However, the application of CAC on a bond-by-bond basis can limit their effectiveness, since a few (or even one) professional investors can hold a share of a single issue large enough to block the restructuring process.

This is actually what happened for several Greek bonds, issued under the English law, when the Greek Government tried to restructure them in 2012: half of them were not restructured due to the hold-out strategy of some specialized investors. On the contrary, the Greek Government was able to implement a massive restructuring of its own debt issued under the domestic law, by introducing ex-post a sort of "retroactive CAC" on outstanding bonds (Greek Bondholder Act of February 23rd 2012): interestingly enough, the quorum (50%) and the consent threshold (76%) were applied across the totality of outstanding bonds, rather than bond-by-bond. The exchange offer turned out to be successful, as it was accepted by bondholders representing 82.5% of outstanding bonds issued under the Greek law.[24]

The Greek experience shows that CACs are more efficient if they are applied across all bondholders, rather than bond-by-bond. The reason is that it is much difficult, or even impossible, for a single investor to buy a blocking share of all the government bonds of a country, while it may be able to do so for a single issue. Therefore, we believe that the proposals of modifying the CACs accordingly (see CEPR 2018) should be seen with favor. New government bonds should include a CAC with the so called "single limb aggregation": one vote for all the bonds involved in a restructuring offer, rather than for every single issue.

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[24] For a detailed description of the Greek debt restructuring, see Zettelmeyer *et al*. (2013).

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4 A European sovereign debt restructuring framework – a policy perspective[25]

Rolf Strauch[26]

European Stability Mechanism

Crises often lead to progress, as people realise they need to fix the underlying problems that are exposed. Accordingly, the euro crisis has taught us many lessons: It revealed the shortcomings of the European institutional setting and posed the challenge of addressing the sovereign debt overhang. A number of far-reaching steps were taken: including a tightening of fiscal governance, measures to cut the bank-sovereign feedback loop and importantly, the creation of the European Stability Mechanism (ESM) as a permanent crisis resolution mechanism. These steps were crucial to overcoming the crisis. Based on the experience of the past, euro area member states have put forward an agenda for the deepening of monetary union to improve its resilience. It addresses the existing European sovereign debt restructuring framework and strengthens its clarity and feasibility. This article will briefly outline the past experience and explain the current policy agenda regarding sovereign debt crisis management.

The crisis experience

The European financial crisis revealed the weaknesses of the existing institutional underpinnings of Economic and Monetary Union (EMU) and could be overcome by a multifaceted policy response. First, the loss of competitiveness in the years prior to the crisis and the insufficient fiscal adjustment left countries structurally vulnerable when the financial crisis hit in 2008. This revealed the weakness of the European policy framework, which was subsequently broadened in scope and became more forward-looking. Second, banks had taken up too much risk and the link between banks and the sovereign turned out to be very costly to resolve. The supervisory structures and rules were insufficient. European policymakers have since then created a common rulebook making banks safer – in line with the G20 and Basel recommendations. And, most importantly, created the banking union, which moves bank supervision and resolution for around 130 significant banks to the euro area level. However, the initial crisis response to address the economic downturn and rescue banks, led to an increase in sovereign debt in some countries, cutting them off from market assess at affordable prices. This revealed the third weakness of the European institutional infrastructure: the lack of an effective sovereign crisis resolution mechanism. This gap was filled first with temporary financial assistance arrangements through the European Financial Stability Facility (EFSF) and then with the creation of the permanent European Stability Mechanism (ESM).

The ESM and its temporary predecessor – the European Financial Stability Facility (EFSF) - employed a three-pronged strategy to address debt overhang. The three legs of the strategy are (i) fiscal adjustment, (ii) official sector lending and (iii) debt restructuring, if needed. This strategy largely mirrors the approach of the International Monetary Fund (IMF). It migrated to the crisis resolution efforts in the euro area directly through the involvement of the IMF and is now embedded in the institutional design of the European crisis resolution mechanisms.

[25] I would like to thank Gong Cheng, Aitor Erce, Juliana Dahl, and Karol Siskind and participants of the ZEW's SEEK-Conference "Regulating sovereign debt restructuring in the eurozone", Mannheim (June 2018) and the EconPol Annual Conference, Brussels (November 2018) for helpful comments and discussions.

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Policy conditionality, including fiscal consolidation, has been an integral part of the financial assistance packages from the start. All countries receiving financial support during the crisis – Ireland, Portugal, Cyprus and Greece, as well as Spain (although its programme focused on the financial sector) – engaged in fiscal consolidation. The biggest fiscal effort was made by Greece, which reduced its fiscal deficit from a staggering 15% to an overall budgetary surplus between 2010 and 2017. It is central to the ESM setting that financial assistance is only disbursed upon compliance with policy conditionality. This ensures that the time of the programme is used to overcome underlying weaknesses.

For its financial assistance, the ESM has established a new set of lending terms for sovereigns. ESM and ESM instruments are geared to the European crisis experience. The financial depth and interconnectedness of the euro area led to larger volumes of official loans than traditionally granted by the IMF. In the course of five programmes, the ESM and EFSF disbursed €295 billion. ESM financial assistance exceeded by far the amount of loans granted by the IMF, even though the accompanying IMF programmes already stood out by their size in the Fund's history, both in terms of quota share and disbursed resources. This shows that ESM financing was not only necessary, but also had a different magnitude affecting the overall debt structure of the beneficiary countries. Against that background, the ESM lends at very long maturities and passes on its own funding costs, with only a very low margin. This has effectively supported the beneficiary countries market re-access, by limiting roll-over risks and creating substantive fiscal space.[27]

Long-term lending is, however, no free-lunch. Long loan maturities reduce roll-over risks, facilitating market access in the short- to medium-run. Empirical evidence suggests that the more limited extensions of maturity for official sector loans attributed to Portugal and Ireland in the course of the euro crisis, positively affected their market perception and pricing.[28] At the same time, long-term lending extends creditor exposure. Moreover, it may constrain future consumption and may reduce the ability of the country to repay its debt, if it hit by a sufficiently large negative growth shock.[29] One implication of this trade-off is that very long-term lending – such as the up to 42.5 years weighted average maturity for loans of the second Greek programme – can only be an exception.

European crisis lending requires debt sustainability. In the exceptional case of Greece, restoring debt sustainability required a massive debt restructuring involving the private sector. There have been no cases of sovereign default and major debt restructuring for Euro area countries over the past 60 years.[30] When the European sovereign debt crisis unfolded, the French and German political leadership agreed in autumn 2010 that future crisis management should entail the necessary arrangements to impose losses on private creditors.[31] In the case of Greece, therefore, a restructuring of the sovereign debt held by the private sector was conducted to restore debt sustainability before the second Greece rescue package was approved. The claims held by the private sector were cut nominally by 55% of GDP, 52% of the eligible debt or in absolute value close to €107 billion. The Greek debt burden was extreme in scale, making this step necessary, which was not the case for other countries undergoing a financial assistance programme in Europe. But the principle that such measures can be taken is part of the ESM institutional structure, because it is foreseen that in exceptional cases, the contribution of the private sector in an "adequate and proportional form" can be part of the crisis measures in line with IMF practices.[32]

[27] See Gabriele, C., Erce, A., Athanasopoulos, M., and J. Rojas (2017), Debt Stocks Meet Gross Financing Needs: A Flow perspective into Sustainability, ESM Working Papers No. 24.
[28] See G. Corsetti, A. Erce and T. Uy (2017) Official Sector Lending Strategies During the Euro Area Crisis. ADEMU Working Paper 2017/070
[29] See Corsetti, G., Erce, A., and T. Uy (2017), Debt Sustainability and the Terms of Official Support, CEPR DP13292.
[30] Jeromin Zettelmeyer & Christoph Trebesch & Mitu Gulati, 2013. "The Greek debt restructuring: an autopsy," Economic Policy, CEPR;CES;MSH, vol. 28(75), pages 513-563, July.
[31] For the Dauville declaration see https://www.eu.dk/~/media/files/eu/franco_german_declaration.ashx?la=da
[32] See Treaty establishing the European Stability Mechanism (ESM Treaty), Recital 12

Clarifying and strengthening the ESM approach to manage a sovereign debt overhang

Against the background of the European sovereign debt crisis experience, a number of proposals for a sovereign debt restructuring mechanism were put forward over the past years.[33] Several of these proposals have in common that they require a debt restructuring – either through face value reduction and net-present-value treatment[34] - as an obligatory part of the ESM crisis management, when a country requests support. Proponents of automatic restructuring argue that too little was done in the Greek case, and the political economy in Europe implies that policymakers will also do "too little, too late" in the future. The procrastination of debt negotiations carries additional economic and financial costs and bears the risk of debt dilution. In order to balance the request for debt restructuring, proponents of automatic debt restructuring often propose at the same time the creation of a European safe asset, i.e. the creation of a senior debt component, shielded from national financial stability risks, to secure government financing.

These proposals face serious conceptual problem when asking for automatic debt restructuring. On the one hand, it can certainly not be excluded that policymakers will not have sufficient courage to act vigorously when a debt restructuring will be required. But, on the other hand, there is no need to throw out the baby with the bathwater. Debt restructuring never comes for free. It has costs for the private sector and for the financing of the sovereign in the future. An automatic debt restructuring could imply such costs even if there is no real need to secure debt sustainability. Even worse, the expectation of the restructuring could lead to a self-fulfilling dynamic where countries otherwise solvent are driven into problems. Therefore, the IMF has for decades implemented a policy where they assess on a case-by-case basis whether a debt restructuring is needed.

Creating a European safe asset would be desirable. But it is difficult to achieve without mutualisation and therefore politically and structurally not feasible at the moment. The creation of a European safe asset would have great benefits for the functioning of the euro area economy – not the least, it would support a stronger role for the euro in the global financial system. However, currently there is too little political trust among member states and there is also still too much structural heterogeneity in terms of growth potential and sovereign and private liabilities, among others, to allow for the issuance of mutualized debt on a large scale. Other proposals have been made to create a safe asset without mutualisation, for example through securitisation, but there are serious doubt that these financing instruments would have sufficient market size to secure funding in crisis situations.

Policymakers have confirmed the existing case-by-case approach to debt restructuring and clarified the framework of ESM activity. The Eurogroup[35] noted that there was broad support to improve the existing framework for promoting debt sustainability in the euro area. Regarding the role of the ESM, the Eurogroup explicitly confirmed the principle that loans should only be granted to countries whose debt is sustainable. Debt sustainability will be assessed on a transparent and predictable basis, while judgement cannot be excluded. The implications for the adoption of ESM support are illustrated in chart one below. In this context, the ESM could have a role very similar to the IMF. After member states request an ESM stability support, the ESM assesses the debt sustainability of a country jointly with the European Commission. If debt is sustainable, no further action is needed and the ESM can grant stability support with conditionality. If debt is not deemed sustainable, negotiations between the debtor and creditors kick in. In this context, the IMF does not directly intervene in the discussion, but provides crucial information on the needs for restructuring to achieve sustainability, and it may give reassurance on the adjustment programme. Very pragmatically, private sector participants in

[33] For an overview see C. Destais, F. Eidam and F. Heinemann (2019) The design of a sovereign debt restructuring mechanism for the euro area – choices and trade-offs. in this volume, and J. Zettelmeyer (2016) A Sovereign Debt Restructuring Mechanism for the Euro Area? In World Economic Forum, Global Fiscal Systems: From Crisis to Sustainability, Geneva: WEF

[34] On implications of different treatments of sovereign debt restructuring based on the experience of emerging and low-income countries, see G. Cheng, Designs and implications of sovereign debt restructuring: different creditors, different approaches, in this volume.

[35] See https://www.consilium.europa.eu/media/37267/esm-term-sheet-041218_final_clean.pdf

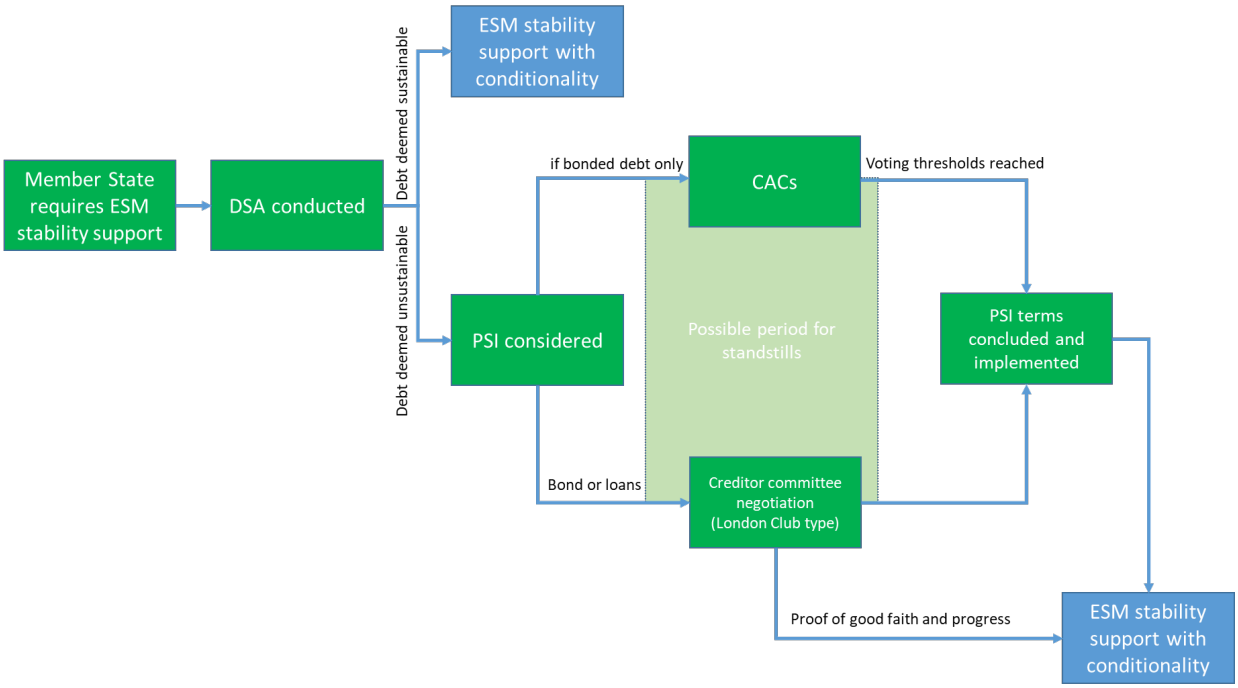
restructuring negotiations will want to have similar information from the ESM and the European Commission. A member state could ask the ESM to take a more active role as a facilitator of the negotiations with its creditors, providing it would facilitate the process and a viable overall outcome.

Contractual arrangements should help to implement debt restructuring. Work is ongoing to make it easier for private creditors to reach a decision regarding a debt restructuring offer and implement it. This can be done by improving the existing contractual arrangements that are part of bond documentation. The goal is to reduce the power of so-called hold-outs, who are in possession of only a small fraction of a country's debt, with which they can block a majority decision. This is done by reforming the Collective Action Clauses (CACs) for euro area sovereigns. The industry itself has made a reform proposal by moving to what is known as a "single-limb aggregation model". Under single-limb aggregation, the fate of a certain series of bonds is no longer completely in the hands of its holders. It becomes possible for a series to be restructured, even if all holders of that series vote against it – provided that the proposal obtains the required majority across all voting series combined. This improves the chances of a restructuring being approved both directly, by increasing the amount of bonds that a reluctant bondholder needs to form a blocking minority, and indirectly, as bondholders are more likely to vote in favour of a proposal if they know it is likely to succeed. While there have been concerns that introducing new CACs could increase borrowing costs for sovereigns, and even trigger market instability, empirical evidence suggests that the impact of CACs on risk premia is small.[36] These contractual arrangements are typically introduced over time with new issuances which, on the one hand, may help to limit their market impact but, on the other hand, also leads to an extended period until they are effectively applicable to the entire stock of debt.

These measures are not taken in isolation, but are part of a broader package to reduce the risk of debt overhang. Additional initiatives aim at further weakening the bank-sovereign feedback loop, completing banking union and making ESM lending instruments more effective. The ESM "toolkit" has been revised to better contain contagion effects and to protect countries facing financing problems as "innocent bystanders". The existing regulatory framework for banks has been implemented and revised to make banks safer; the ESM will become the common backstop to the Single Resolution Fund. This will provide more robustness to the banking union. Steps towards the implementation of a common deposit insurance are being discussed. Deeper integration of the European banking market and a more complete European capital market will allow for safer financing and more private sector stabilisation in crisis situations, thereby making the euro area more robust when facing the next crisis.

[36] According to the literature, CACs are cost neutral for countries with good ratings and can reduce borrowing costs for higher-risk countries. For a literature overview and empirical evidence see M.O. Picarelli, A. Erce. And Xu Jiang (2018) The benefits of Reducing Hold-Out Risk: Evidence from the Euro CAC Experiment, 2013-2018, ESM Working Paper No. 33.

Chart 1: Process of adopting ESM financial stability support



5 Designs and implications of sovereign debt restructuring: different creditors, different approaches[37]

Gong Cheng[38]

European Stability Mechanism

1. Introduction

A sovereign debt restructuring can be defined "as an exchange of outstanding sovereign debt instruments, such as loans or bonds, for new debt instruments or cash through a legal process" (Das et al., 2012). When public debt grows beyond a certain sustainable level – even though economic literature is inconclusive about what the level is – it would likely reduce the chance for a sovereign borrower to refinance itself in financial markets or heavily drag down economic growth (Reinhart et al., 2012). In such a situation of debt overhang, the sovereign debtor often needs to renegotiate its debt commitment with its creditors.

Negotiating debt restructuring can be understood as a strategic and dynamic game between the sovereign borrower and its creditors. Given political and economic circumstances, the debtor country can require a restructuring when it already missed payments to certain creditors (post-default restructuring) or pre-emptively negotiating new terms of repayment while staying current on its financial obligations (pre-emptive restructuring).[39] The debtor country can also decide with which groups of creditors it would engage in negotiations, e.g., private or official creditors, resident or non-resident creditors. Often the debtor country needs to engage a group of creditors as wide as possible given large financing gaps, but it may also adopt a selective approach. For instance, if domestic financial stability is at risk, the country would prefer to restructure its debt vis-à-vis its foreign creditors only.[40] Or if negotiating with its private creditors looks challenging, the debt country could choose to approach its official creditors which are members of the Paris Club first. From creditors' perspective, restructuring terms can vary as well, from debt cancellation, i.e., face-value reduction, to restructuring in Net Present Value (NPV) terms through maturity extension, interest rate rebates, and other financial measures. Based on a number of recent empirical studies on debt restructurings offered by different creditor groups (see Schröder, 2014, Reinhart and Trebesch, 2016, Cheng et al., 2018), it seems that debt cancellation or face value reductions are more conducive to GDP growth in the immediate aftermath and reduce the probability of serial restructurings for low income countries in comparison with treatment in NPV terms. This is mainly because debt cancellation reduces directly a country's debt burden and would free financial resources for productive investment while NPV treatment only provides debt service relief while leaving the principal payment unchanged. At the same time, direct cancellation could adversely encourage undisciplined fiscal policy, leading to future debt overhang problems.

This paper aims to provide a bird's-eye view of the different approaches to debt restructuring offered by different types of creditors, based on existing empirical studies of sovereign external debt restructuring with a focus on emerging and low-income countries. Asonuma et al. (2018) provide a similar overview of the empirical literature on sovereign debt restructurings, which focuses, however, on a wider range

[37] The views presented hereafter are those of the author and do not necessarily reflect those of the ESM or its policy. I thank Frederik Eidam, Friedrich Heinemann and Rolf Strauch for their constructive comments. I am grateful to Lea Caillouet for her excellent research assistance.
[38] E-mail: g.cheng@esm.europa.eu. Address: 6a, circuit de la Foire Internationale, L-1347 Luxembourg.
[39] Asonuma and Trebesch (2016) and Trebesch and Zabel (2017) provide a detailed account on pre-emptive vs. post-default restructuring.
[40] Mallucci (2015) and Erce and Mallucci (2018) study the features and reasons of selective defaults and restructuring.

of issues than the different types of debt restructurings only. In addition, my paper will shed light on debt relief provided by non-Paris Club creditors, which are often missed in the existing literature.

When we look into the history of sovereign external debt restructurings,[41] we can see that the terms of debt relief measures depend very much on the types of creditors – private, official or multilateral lenders. They may face varying constraints when involved in a debt restructuring. For instance, a sovereign government's liabilities vis-à-vis multilateral creditors, such as multilateral development banks or the IMF, are often excluded from debt restructuring (IMF, 2013 and 2015). As follows, this paper will document the types and implications of sovereign debt restructuring involving three types of creditors of emerging and low income countries: official lenders which are permanent members of the Paris Club, non-Paris Club official lenders and private-sector creditors.

2. Paris Club creditors

2.1 Terms of restructuring offered by Paris Club creditors

The Paris Club has been a major platform for debt relief provided by its permanent members to other sovereign governments. It is an informal forum hosted by the French Treasury, where creditor governments conduct debt-restructuring negotiations with sovereign debtors in a coordinated manner since 1956. As Cheng et al. (2018) document, Paris Club permanent members[42] have provided 422 debt relief to 86 debtors between 1956 and 2015. Some African countries, such as Senegal, Côte d'Ivoire and Democratic Republic of Congo, received more than 10 debt reliefs from this group of creditors in the history, and the group of emerging and low-income countries represents the bulk of restructuring cases.

When debt restructuring is negotiated in the Paris Club framework, the restructuring approaches would follow some predefined terms. Figure 1 shows that different terms entail varying degrees of debt relief, from the Classic terms offering no relief to terms designed for Highly Indebted Poor Countries (HIPCs) offering significant reductions both in face value and in NPV terms. Overtime, the Paris Club also developed six principles to guide its members' participation in debt restructurings. The six principles are (i) solidarity – members agree to act as a group and to avoid taking actions with their common debtors individually; (ii) consensus – Paris Club rescheduling deals must be accepted by all of its members; (iii) information sharing – Paris Club is the unique information exchange forum among its members on the situation of debtor country; (iv) conditionality – the debtors that approach the Paris Club for a debt rescheduling are expected to have previously concluded an IMF programme with a clearly defined macroeconomic adjustment program; (v) a case-by-case approach in the definition of the terms of each rescheduling granted by the members of the group; and (vi) comparability of treatment, namely sovereign debtors that reach a rescheduling agreement with the Paris Club are required to seek similar terms from other creditors, with the exception of multilateral organisations, to preserve their preferred creditor status.

[41] Das et al. (2012) offers an excellent history account of debt restructuring events between 1950 and 2010.

[42] Currently the Paris Club counts 22 permanent members: Australia, Austria, Brazil (since 2016), Belgium, Canada, Denmark, Finland, France, Germany, South Korea (since 2016), Ireland, Israel, Italy, Japan, Netherlands, Norway, Russia, Spain, Sweden, Switzerland, United Kingdom and United States.

Figure 1. Evolution of Paris Club terms of treatment (1956 – 2015)

	Number of Agreements	Countries	Amount Treated (billion US$)	Nominal Relief (billion US$)	Nominal Relief % Amount Treated	NPV Relief	Agreements per Country
Ad Hoc	33	25	238.9	53.5	22.4	–	1.3
Classic	165	58	153.9	0.0	0.0	0%	2.8
Toronto	28	20	6.1	0.0	0.0	33%	1.4
Houston	35	21	72.0	0.0	0.0	0%	1.7
London	26	23	8.6	0.0	0.0	50%	1.1
Naples	47	33	31.6	8.4	26.7	67%	1.4
Naples 50%	6	4	3.1	0.2	5.7	50%	1.5
Lyon	7	5	6.0	0.9	15.1	80%	1.4
Cologne	39	32	24.2	6.0	24.9	90%	1.2
HIPC Exit	36	36	36.8	24.0	65.3	98%	1.0
Total	422	86	581.2	93.1	16.0		4.9

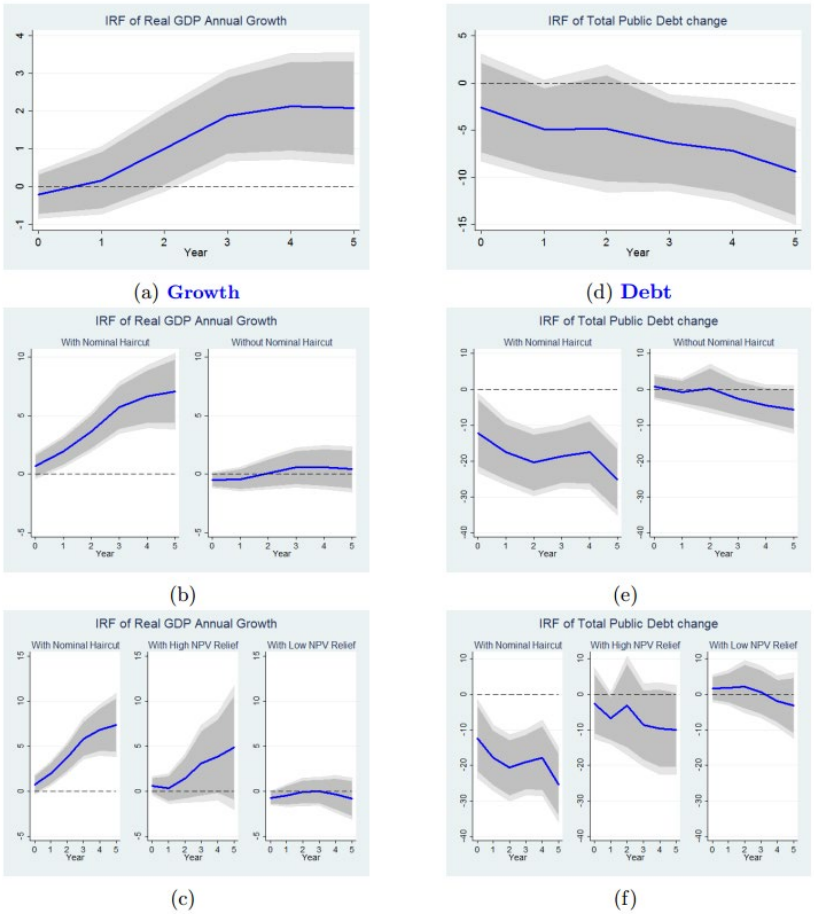
Source: Cheng et al. (2018)

2.2 Empirical findings on the magnitude and macroeconomic impact of different terms

Recent empirical studies show that the different approaches to debt restructuring that Paris Club creditors offer may generate different macroeconomic implications. Cheng et al. (2018) show that among 422 Paris Club debt relief events since 1956, 84 cases received face-value debt reduction while the other 338 cases only received debt relief in NPV terms, i.e., through maturity extension, interest rate rebate, etc. Among these 338 debt relief event without face-value reduction, 82 cases received a NPV-based relief whose size relative to the debt stock exceeds 50% and the remaining 228 cases received a smaller NPV treatment.

Using the local projection techniques à la Jordà (2005) and their novel dataset, Cheng et al. (2018) conclude that face-value reduction most significantly spurs real GDP growth and reduces the debt stock in the short to medium run (see Figure 2). The effect on growth and debt stock is not significant when restructuring is offered in NPV terms, in particular for small-sized NPV debt relief.

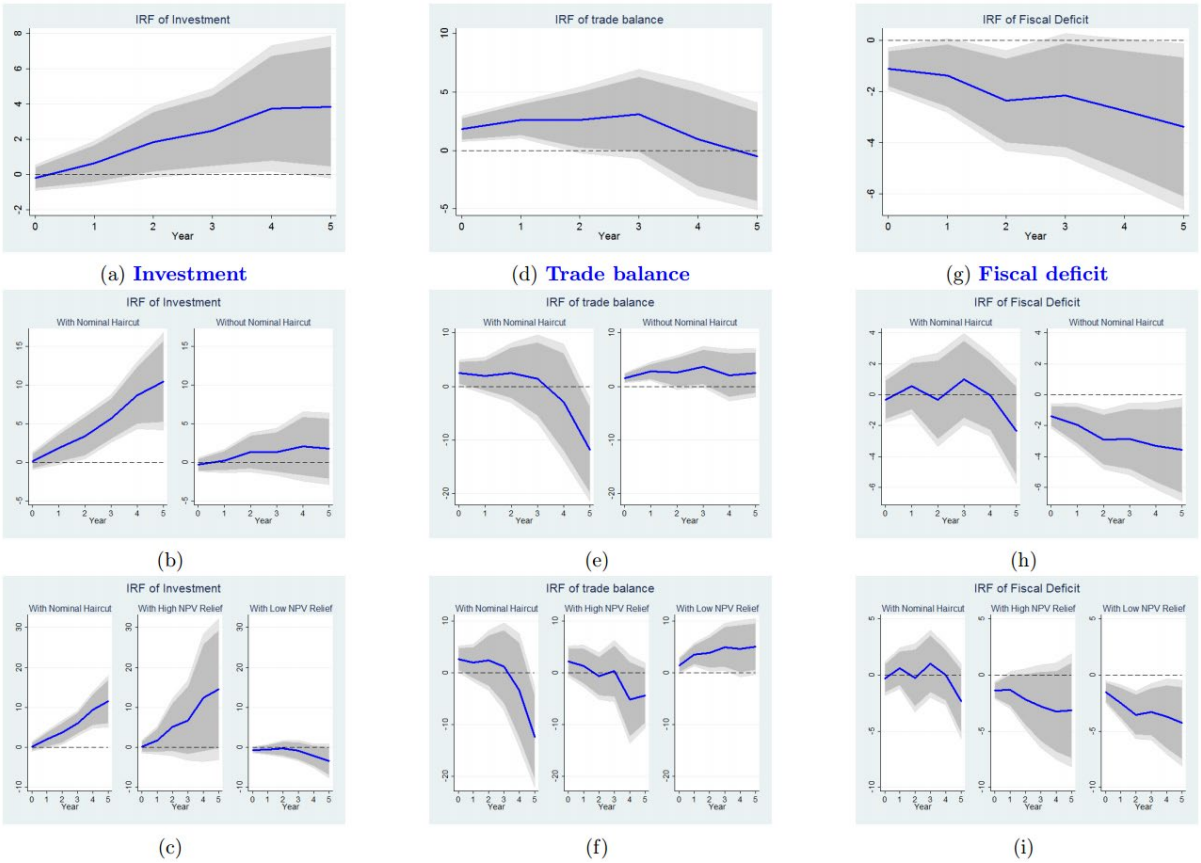
Figure 2 Different restructuring approaches have different macroeconomic implications



Source: Cheng et al. (2018)

A number of factors drive the heterogeneous dynamics of growth and debt trajectory following different approaches to official sector debt restructuring. Figure 3 illustrates that the growth effect associated with face-value reduction is most likely associated an improved overall investment in the economy, as investment significantly rises after a restructuring offering nominal debt reduction. The benefits associated with NPV debt relief are the improved external position and fiscal balance after restructuring. This finding suggests that official sector creditors need to carefully think about the objectives to achieve when designing a debt restructuring. Especially for low-income countries, there can be trade-offs associated with different restructuring terms.

Figure 3 Transmission channels affecting the overall macroeconomic effects of restructuring



Source: Cheng et al. (2018)

3. Non-Paris Club official lenders

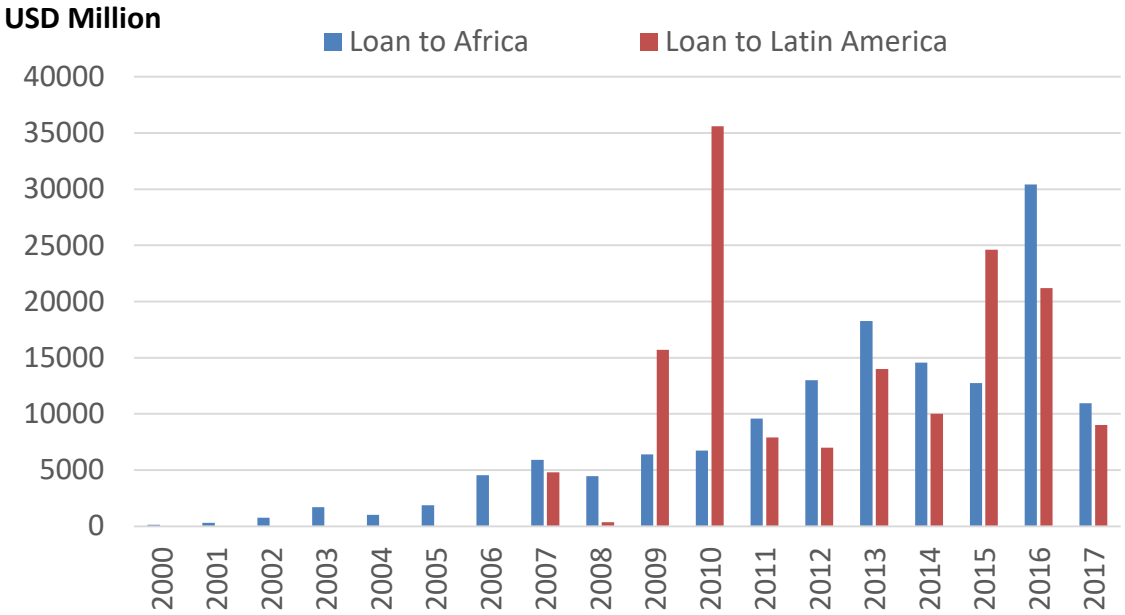
3.1 Growing importance of non-Paris Club official creditors

Despite its historical importance and relevance in recent restructuring events, the Paris Club has only 22 permanent members, mostly advanced economies and members of the Organisation for Economic Cooperation and Development (OECD). In recent years, we observe a number of large emerging market economies, such as Brazil, Russia, India and China, have become active in sovereign lending to less-developed countries. These non-Paris Club sovereign lenders have not only extended loans of large scale, they are also more willing to provide financing to countries that Paris Club creditors are more reluctant to do, among others due to human rights or other political considerations. It is thus important to consider the approaches non-Paris Club sovereign lenders would likely to offer in case of sovereign debt negotiations.

Among all emerging market lenders, China has been the most important given the overall size of loans the Chinese government, policy banks,[43] commercial and state-owned enterprises have extended. Figure 4 shows the evolution of loans that China has extended to Latin American and African countries since 2000, which are the major beneficiaries of Chinese capital outflows. I will mainly focus on this country when discussing restructuring terms in the next sub-section.

[43] Mostly China Development Bank and the Export-Import Bank of China.

Figure 4 Chinese loans to sovereigns in Africa and Latin America (2000 – 2017)



Source: the author's calculation based on Gallagher et al. (2017) and Bluhm et al. (2018)[44]

3.2 Uncertain terms of debt relief: examples from recent debt relief offered by China

As described earlier, the Paris Club designed a number of principles over its 60 years of existence. The Comparability of Treatment principle aims to encourage a debtor country receiving a treatment from Paris Club creditors to seek similar debt relief with its private creditors or other non-Paris Club official creditors. However, given that the Paris Club principles are not binding for non-members, it is difficult to assume that the new players would adhere to the collective action approach of the Paris Club. Whether the Comparability of Treatment principle is operational outside of the Paris Club framework depends very much on specific circumstances and the willingness of other creditors. For instance, China has decided to follow the Paris Club Comparability of Treatment in 2010 in Antigua and Barbuda but refused to do so when its financial or political stakes were larger, for instance in Iraq in 2004 and Venezuela in 2018.

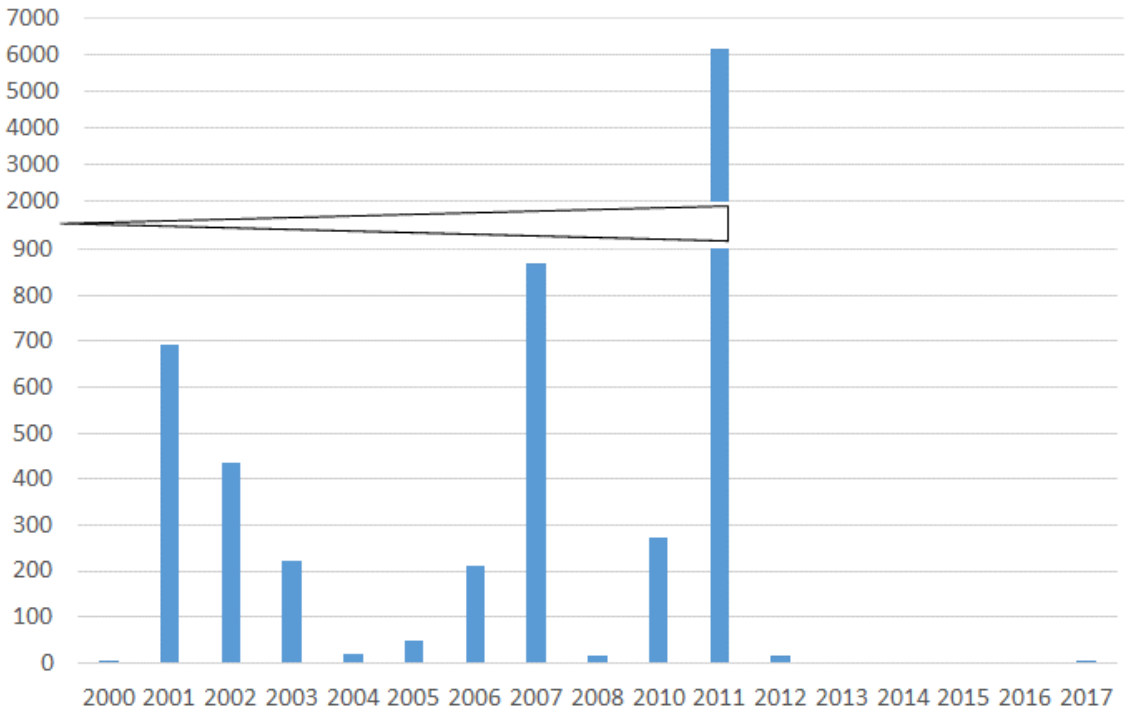
In addition, except non-Paris Club lenders themselves, the outside world possesses little data or specific knowledge on the magnitude and terms of Chinese loans to developing countries. Reinhart et al. (2017) for instance attributed the mismeasurement of sovereign defaults or credit events in recent years to the impossibility to quantify the defaults or accumulated arrears on Chinese loans.

According to debt relief actions mentioned in Hurley et al. (2018) and relevant press releases, China has offered both face-value debt reductions and debt relief in NPV-terms through maturity extensions. Face-value debt reductions were mostly offered to HIPCs and in the early 2000s. There have been more recent cases in which China offered restructurings involving NPV-term relief. For instance, maturity extension was designed as a debt relief measure in Zimbabwe in 2010, Seychelles in 2011 and Sudan in 2014. Figure 5 shows estimates of the size of debt relief provided by China since 2000. The spike in 2011 marks a US$ 6 billion restructuring that China provided to Cuba.

[44] AidData's Geocoded Global Chinese Official Finance, Version 1.1.1, https://www.aiddata.org/data/geocoded-chinese-global-official-finance-dataset

Figure 5 Debt relief provided by China (2000 – 2017)

Million USD



Source: the author's calculations based on Bluhm et al. (2018) and Hurley et al. (2018)

A particular feature about bilateral loans extended by non-Paris Club creditors is their preference for loan collateralisation. Reportedly, goods, royalties or commodity stocks were requested as collateral. For instance, China provided oil-for-loan deals to Venezuela. Thus, in case of arrears or defaults, Venezuela would send shipments of crude oil and fuel to pay off its debt and this already happened recently.[45] The growing use of collateralised lending could potentially alter the seniority among different creditors. Those who extended collateralised loans would rank senior in practice when debt restructuring occurs, undermining the right of other official creditors. This seniority issue could also challenge creditors' collective action to address a debt country's debt overhang given the tilted the playing field collateralisation generates.

4. Private-sector creditors

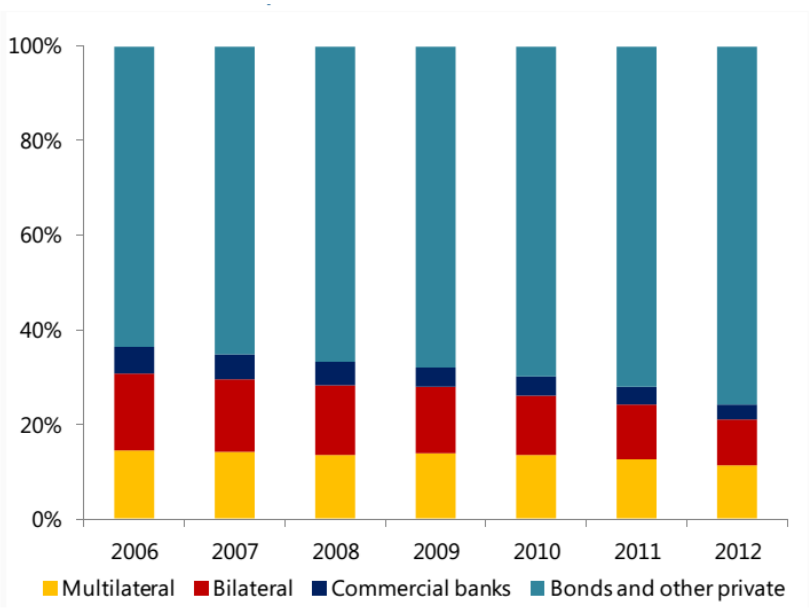
4.1 Bondholders and bank loan providers

Sovereign states also often borrow from private-sector creditors. Sovereign governments' borrowing from private sector in emerging and low-income countries was dominated by bank loans until the 1990s. Since then, issuing sovereign securities in international financial markets has become the prevailing form of sovereign borrowing (Lee, 2009). The stock of international sovereign bonds issued by emerging and low-income countries was already more than eight times as large as loans from commercial banks

[45] To review one case of the Chinese oil-for-loan deal in Venezuela, please see https://www.reuters.com/article/us-venezuela-china/exclusive-venezuela-faces-heavy-bill-as-grace-period-lapses-on-china-loans-sources-idUSKBN1HY2K0

in 2012 as Figure 6 (from IMF 2015) illustrates. IMF (2017) estimates the total outstanding stock of international sovereign bonds at approximately US$ 1.032 trillion in October 2016.

Figure 6 Decomposition of sovereign debt of emerging and low-income countries (2006 – 2012)



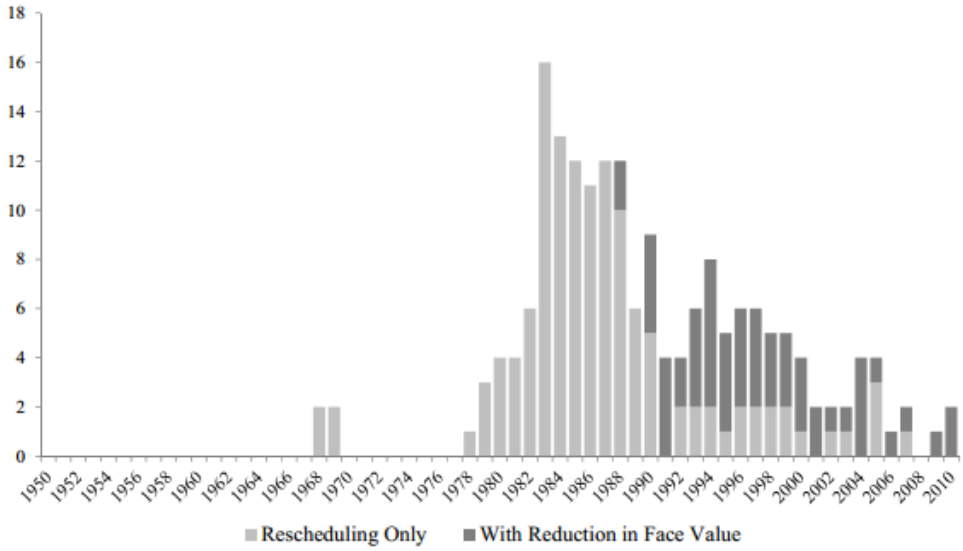
Source: IMF (2015), p. 61

When a sovereign state envisages restructuring its debt held by private sector, it often negotiates the restructuring terms with a creditor committee representing the major bank creditors if sovereign debt is in the form of a bank loan. If debt restructuring concerns bondholders, consultations with bondholder could be difficult given the dispersed creditor structures in some cases. In some cases, the sovereign borrower undergoing a bond restructuring managed to consult major bondholders and developed the bond exchange offer jointly with their representatives, e.g. in Ukraine in 2003. In other cases the sovereign issuer needed to make unilaterally an exchange plan and communicated it to its creditors via roadshows, e.g. in Seychelles in 2009 and in Jamaica in 2010.[46]

In general, private creditors would prefer a debt exchange, i.e., changes of the contractual terms of a debt, to face-value reduction (Lim et al., 2005). However, in line with the evolution of the Paris Club restructuring since 1950s documented by Cheng et al. (2018), Das et al. (2012) also observe an overall increase in debt reduction in face value offered by private-sector creditors since the 1990s, as illustrated in Figure 7. Consistent with these developments, the Greek Private Sector Involvement (PSI) in 2012 during the euro area debt crisis partly contained a face-value debt restructuring (Zettelmeyer et al., 2013).

[46] Das et al. (2012) provides a comprehensive review of the cases of sovereign bon restructuring.

Figure 7 Face-value reduction vs. rescheduling for sovereign debt held by private-sector creditors (1950 - 2010)



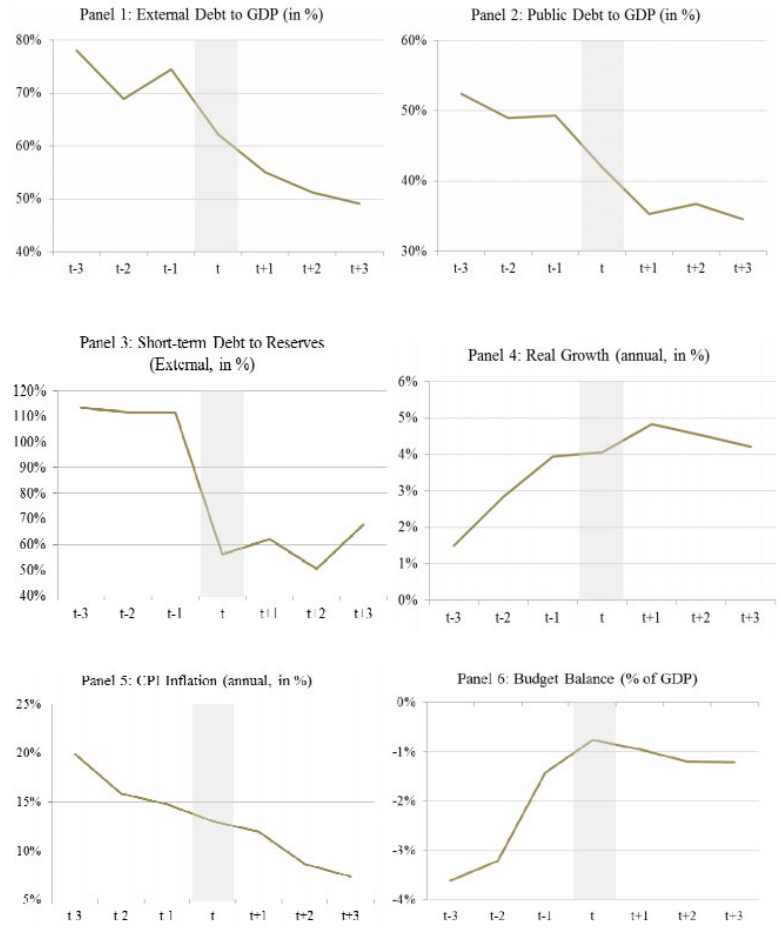
Source: Das et al. (2012)

4.2 Empirical assessment of the impact of Private Sector Involvement

There is an extensive literature on the impact of debt restructuring with private sector creditors, or PSI. The existing literature has assessed a large number of aspects of the economic impact of a PSI, including economic growth, market re-access, political and legal costs, economic and social development, trade, and domestic financial resilience, etc. The overall assessments of the literature suggest that what matters is not sovereign defaults or restructurings per se, but how default was resolved (quickly or over years, etc.) and how restructuring was designed (pre-emptive vs. post-default, face-value reduction or NPV relief, etc.).

Das et al. (2012) show that the aftermath of a sovereign debt restructuring is often associated with a significant drop in total public debt to GDP and improved macroeconomic conditions (see Figure 8). Using a difference-in-difference approach to study the effects of the Brady Plan, Reinhart and Trebesch (2016) further demonstrate that debt restructuring is more beneficial for growth when it provides nominal debt relief than when relief is delivered in NPV terms. These results are largely in line with those for public sector restructuring reported above. As regards market access, Gelos et al. (2011) conclude that the speed at which a sovereign default is resolved matters and that on average the period when a sovereign government is cut-off from international credit markets following a default declined from four years in the 1980s to two years in the 1990s.

Figure 8 Macroeconomic impact of private sector involvement



Source: Das et al. (2012)

To conclude, this paper provides an overview of the various approaches to debt restructuring that could be offered by different types of creditors, and the resulting macroeconomic consequences. Economic literature seems to indicate that for both restructurings with official or private creditors, relief would be more beneficial for growth when it provides face-value reduction rather than NPV-term treatments. However, face-value reduction is more likely associated with undisciplined fiscal behaviour in the longer-run. In addition, the rising importance of non-Paris Club creditors is likely to bring new challenges in sovereign debt negotiations, as non-Paris Club creditors are not bound by any formal agreements or guidelines for relief provision, contrary to the Paris Club. The growing use of collateralised lending could also challenge the seniority among different creditors, thus undermining the playing field the recent contractual approach to sovereign debt restructuring (such as Collective Action Clauses) aimed to establish.

In general, it would be interesting to follow the recent cases of debt renegotiations, for instance in Venezuela, to monitor and understand the new trends in the design and implications of sovereign debt restructuring.

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