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CIGI PAPERS

NO. 63 — APRIL 2015

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GREGORY D. MAKOFF

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Gregory D. Makoff

67 Erb Street West
Waterloo, Ontario N2L 6C2
Canada
tel +1 519 885 2444 fax +1 519 885 5450
www.cigionline.org

TABLE OF CONTENTS

ABOUT THE AUTHOR

Gregory D. Makoff is a CIGI senior fellow and the former global head of Sovereign Liability Management at Citi.

EXECUTIVE SUMMARY

This paper discusses "debt reprofiling" — a relatively light form of sovereign debt restructuring in which the tenor of a government's liabilities are extended in maturity, but coupons and principal are not cut. While various forms of temporary debt relief have been used since time immemorial (W. Johns 1903, 19), the staff of the International Monetary Fund (IMF) has proposed making reprofiling the centrepiece of the proposed rewrite of its exceptional access policy that governs fund lending and debt restructuring conditionality when a member country seeks to borrow large sums.

After reviewing the Fund's proposed revision to its lending policy, this paper focuses on the definition of a debt reprofiling and how to distinguish one from deeper forms of debt restructuring. The paper's approach focuses on the commercial features of these types of transactions — i.e., the changes to maturity, coupon and principal amounts. The net present value (NPV) impact of different strengths of debt restructurings on creditors and debtors are also presented.

The paper highlights that the Fund's proposal adds important nuance to its policy framework for determining debt restructuring conditionality. In the past, all types of debt restructurings were lumped together and were called for when "burden sharing" was indicated. Now, the proposed policy would distinguish when creditors should suffer immediate losses (through a loss-inducing debt restructuring) from situations where creditors are simply required to remain in the game as a lender (through a reprofiling) and at risk to loss in future restructurings. The former may be termed "value-burden sharing" while the later "risk-burden sharing."

To test the framework, the current situation in Ukraine is studied, where the government's finances have been destabilized by the ongoing geopolitical conflict. The paper's framework is used to argue that a reprofiling could have been a valuable tool during 2014 in the context of the Fund's initial financing for Ukraine — short-term creditors could have been prevented from exiting the system. Now the economic damage is so severe that loss-burden sharing is indicated and a deeper debt restructuring is in the cards.

INTRODUCTION

The IMF has proposed a new tool in the global financial architecture for managing sovereign debt crisis: "reprofiling." Reprofiling is a particular type of debt restructuring focused on extending the maturity of short-dated liabilities — applied to a single bond, this might be typified by the exchange of a two-year fixed rate government bond for a new five-year bond, a three-year extension of maturity. This is a very useful idea as there are circumstances where an extension of maturities may allow an optimal outcome for both debtors and creditors; breathing space from principal maturities may allow a government to get its financial house in order and thus regain the ability to repay creditors in full.

Yet the new concept has generated a lot of confusion. After all, it gets added to the plethora of terms and processes that have come and gone: restructuring, rescheduling, multi-year rescheduling agreements, Baker plans, Brady plans, Brady exchanges, swaps, switches and standstills. Each new crisis seems to invite a new nomenclature and fresh procedures. One could take the jaded view that this new concept is just a repackaging of what has come before — but this paper takes the view that this is a legitimate advance deserving of special attention. The IMF's backing research shows that maturity extension transactions are relatively less disruptive than deeper debt restructurings and can be a powerful tool to stabilize inter-creditor relationships (IMF 2014c, 51–91). In the context of the history, it is promising that reprofiling does not involve an acronym and has a self-evident meaning — maturity profiles are extended.

The central purpose of this paper is to ensure users know what the term reprofiling is supposed to mean, but it also provides a method to distinguish debt reprofilings from deeper debt restructurings. In this context, a general features-based scheme to categorize debt restructurings is offered — one that uses debt reprofiling as the first building block, but then adds new categories as maturity extension increases and coupon and principal cuts are added with increasing intensity.

This discussion begins with a review of the Fund's definition of reprofiling and the policy framework in which its use will be indicated. The proposed method for categorizing debt restructurings is then presented. The new definitions are applied to the current situation in Ukraine to answer the question whether the country needs a debt reprofiling or a deeper form of debt restructuring.

THE IMF'S PROPOSED CHANGES TO EXCEPTIONAL ACCESS LENDING POLICIES

Debt reprofiling would be mandated as a condition of an IMF loan under the proposed new lending policy when (IMF 2014b, 23-24): the member country seeks a large amount of funds relative to its quota ("exceptional access" — for which several criteria must be met, as set out in Box 1); the country has lost market access; and the IMF staff determines that the country's debt is likely to be sustainable, but that it doesn't meet a "high probability" test. Debt restructuring would still be required when a country's debt sustainability is in sufficient doubt,

Box 1: The IMF's Current Exceptional Access Criteria

"Four substantive criteria must be met before the Fund may approve access in excess of normal limits:

Criterion 1. The member is experiencing or has the potential to experience exceptional balance of payments pressures on the current account or the capital account, resulting in a need for Fund financing that cannot be met within the normal limits.

Criterion 2. A rigorous and systematic analysis indicates that there is a high probability that the member's public debt is sustainable in the medium term. However, in instances where there are significant uncertainties that make it difficult to state categorically that there is a high probability that the debt is sustainable over this period, exceptional access would be justified if there is a high risk of international systemic spillovers. Debt sustainability for these purposes will be evaluated on a forward-looking basis and may take into account, inter alia, the intended restructuring of debt to restore sustainability. This criterion applies only to public (domestic and external) debt. However, the analysis of such public debt sustainability will incorporate any potential contingent liabilities of the government, including those potentially arising from private external indebtedness.

Criterion 3. The member has prospects of gaining or regaining access to private capital markets within the timeframe when Fund resources are outstanding.

Criterion 4. The policy program of the member provides a reasonably strong prospect of success, including not only the member's adjustment plans but also its institutional and political capacity to deliver that adjustment."

Source: IMF (2014b, 33).

Box 2: Amendment of Exceptional Access Criteria for Reprofiling

"[I]n circumstances where a member has lost market access and public debt is considered sustainable, but not with high probability, the Fund would be able to make its financing conditional upon a debt operation that, while improving debt sustainability, does not necessarily restore sustainability with high probability. Specifically, creditors would be requested to agree to a relatively short extension of maturities (reprofiling). A reprofiling would typically not involve a reduction in either principal or coupon and, in light of the fact that it would be of limited duration, would not imply a significant reduction in the net present value of creditors' claims. Because of its limited nature, such a debt operation would not necessarily restore debt sustainability with high probability (hence the need for a modification of the policy). However, it would be designed so that, when coupled with the implementation of a strong adjustment program, the member will still have good prospects of restoring market access without the need for debt reduction. Accordingly, the duration of the reprofiling would be determined on a case-by-case basis, taking into account the length of the program and the structure of the member's public debt. In accordance with current Fund lending policy, if, during the course of the program, it subsequently became clear that the reprofiling has not been sufficient to achieve the programmed improvement in the member's sustainability, further Fund support would be conditioned on a more definitive debt operation being carried out."

Source: IMF (2014b, 2, 11).

and bailouts would be allowed when the outlook for sustainability under a Fund program meets the "high probability" test. Reprofiling is a "third way" to use when the outlook falls between these two extremes, as described more fully in Box 2.

The IMF suggests that reprofiling should be a comprehensive tool through which private sector creditors and official bilateral lenders move out the maturity of short-dated debt in a comparable fashion. Both the international and domestic debt of issuers would typically be included. The objective would be to give a country a clear runway without refinancing pressures to implement a significant fiscal adjustment that would tilt its debt dynamics convincingly toward sustainability; at the same time, the operation would keep creditors on standby to absorb losses should the country's debt dynamics not stabilize. A functional analogy could be made to payment standstills in corporate bankruptcy, although reprofilings (as defined by the Fund) would only apply to principal payments — interest would still be paid.

With this said, the Fund's definition of a reprofiling is somewhat imprecise. The Fund writes that a reprofiling would incorporate a "relatively short" extension of maturity, the period during which maturities are required to be extended would "not normally" exceed three years (IMF 2014b, 11, 25), and "would typically not involve a reduction in either principal or coupon" (11). This fuzziness is understandable and seems driven from operational considerations, since the appropriate transaction for a country will depend on many factors, including the detailed structure of a government's debt, the mix of debt providers and the economic situation. The Fund cannot be too rigid in its policy prescriptions — and the Fund's earlier proposals were criticized for being too rigid. But the recent confusion about the policy suggests that it would be helpful to have some guidelines to define how long a maturity extension or what type of coupon changes might reasonably form part of a mandated reprofiling transaction. And it remains unclear how any reprofiling could reduce principal while retaining its character as a relatively safe, low-impact way of stabilizing a country's debt relationships.

It is also hard to discern how the Fund plans to use Debt Sustainability Analysis (DSA) models to evaluate reprofiling transactions. Traditional debt restructurings appropriately use a DSA to calibrate the amount of relief required from creditors. Reprofilings are financing transactions that do not provide debt relief and whose terms are largely constrained by the presumption that principal will not be cut and coupons will remain at historical levels. Here it seems that reprofilings should be evaluated primarily by the amount of financing they provide, although one trigger for their use would be the level of uncertainty in debt sustainability determined in a DSA model.

A CLASSIFICATION SYSTEM FOR DEBT RESTRUCTURING

Debt reprofilings need to be studied as a subset of the general category of transactions known as debt restructurings — transactions where debt payments are reduced or delayed because of the unwillingness or inability of the issuer to pay.

Debt restructurings come in many different forms and may have vastly differing consequences for creditors and the debtor. Some are quite modest and simply involve rescheduling payment dates — changes in maturity. Others involve substantial debt writeoffs — changes in principal or coupons. All sorts of combinations are possible and it takes a specialist to understand which option should apply

Figure 1: Burden-sharing Objectives, Transaction Types and Impact

Debtor Objective		Transaction Type		Creditor Impact
Financing / Risk-burden Sharing	→	Debt Reprofiling	→	Full Recovery Possible
Debt Relief / Value-burden Sharing	→	Debt Restructuring	→	Permanent Impairment

Source: Author.

in which circumstances. This paper suggests a scheme to lay bare the essential logic.

A bootstrap approach is used here. The first building block is debt reprofilings — transactions that move out debt maturities a moderate amount without changing coupons. These give a country time to put its financial house in order when there is a good prospect for recovery without debt relief. For the Fund (as a lender of last resort), an important commercial effect is that a reprofiling prevents short-term creditors from leaving the system so that they remain at risk to bear losses should the economic program turn out badly. As a result, the involvement of private sector creditors in a reprofiling could be termed risk sharing or "risk-burden sharing," as they will risk loss if the debt needs to be written down in the future. However, in a market context, a reprofiling generates value by its own success: when imminent default is taken off the table the country becomes more creditworthy. A restructuring, on the other hand, imposes direct value losses on private sector creditors through the reduction of the coupon or principal of debt to lower a government's debt to GDP ratio or interest expense burden. This is warranted when the situation is untenable without such relief. The term "value-burden sharing" could be used to distinguish the affect of debt restructuring on private sector creditors.

This analysis suggests a mapping from the mandated policy objective (for the debtor) to the appropriate type of debt restructuring and its impact on creditors.

To generalize this scheme, the next step is to break down debt restructurings with value loss into three categories — "soft," "medium" and "hard." The results are set out in Table 1. It shows the typical commercial features of transactions that fall into each category as well as the mapping from the objectives of the transaction to those features. Some historical examples that fall into these categories are listed. By providing a range of the typical amount of coupon cut, principal cut or maturity extension in each box, the reader may estimate the category of a transaction without any calculations or additional assumptions — a key result of this paper. Simplicity, it is hoped, is a good thing.

Table 1 displays a general trend moving from top to bottom where the harder the restructuring the more significant the reduction in coupon and principal that applies. Furthermore, all restructurings embed a reprofiling of maturities, although the deeper the restructuring the more significant the extension. To line up with the Fund's definitions, the term reprofiling here is reserved to describe restructurings that involve a relatively short extension of the maturity of target bonds.

From left to right, the Table 1 entries flow from the purpose of the transaction onto commercial terms, and then on to NPV analysis. Here, NPV analysis is relegated to a second step because it does not always provide robust, comparative results. The problem is that the NPV impact of a transaction depends on the discount rate applied, and there is no standardized method of choosing discount rates and they could change day-to-day. Moreover, discount rates can justifiably differ by large amounts depending on the economic perspective of the analyst. Given that NPV analysis is important, this paper suggests a two-part solution: use fixed discount rates to support cross-transaction comparability; and use two discount rates in any analysis — one to capture the "mark-to-market" perspective of creditors and another to capture the debtor's "pay-to-maturity" perspective. This paper suggests that, in general, a 10 or 15 percent discount rate is used to calculate "NPV haircuts" to investors, and a discount rate in the three to six percent range is applied when modelling debt relief provided by a restructuring to the debtor. This approach is used in the calculations displayed in Table 1 as well as in Table 2 in the Appendix, where the restructuring of a two-year bond is evaluated in detail.

To be sure, any scheme to classify debt restructurings will have its faults. Because of the vast array of commercial features, discount rates or macroeconomic assumptions (inflation, exchange rates, etc.), any scheme to categorize a large number of transactions will create debates over how particular transactions are ranked. And this isn't just a matter of discount rates; the waters are often muddied when restructurings include features, such as partial cash payments to investors, or when the new bond benefits from guarantees, collateral, ranking benefits, or other novel legal or commercial features. The message here is less to promote this specific scheme of ranking than to encourage the comparative study of the relative impact of debt restructurings to allow observers to better understand the frequency, depth and driving rationale for these transactions.

Table 1: A Classification System for Debt Restructurings

Term	Purpose of Transaction	Typical Commercial Features[1]	Selected Examples[2]	Illustrative NPV Haircut to Bondholders at a 10% Discount Rate[3]	Debt Relief to Debtor at a 6% Discount Rate[4]
Reprofiling	Risk-burden sharing: Used to lock in funding for a few years and/or to keep creditors at risk to future loss absorption	3–5-year maturity extension No coupon reduction No principal haircut	Uruguay, 2003 Dominican Republic, 2005 Pakistan, 1999	5–15% Allows full recovery of par/market value if no subsequent restructuring	0% Government benefits primarily through avoiding high or uncertain market financing costs that would otherwise apply
Soft Restructuring	Value-burden sharing: Primarily used to relieve funding and budgetary interest pressures	5–10-year maturity extension Coupons reduced 0–30% No principal haircut	Ukraine, 2000	15–30% May allow full recovery of par/market value after interim loss of income	0–20% Temporary interest expense relief generates small debt/GDP savings on horizon of economic program
Medium Restructuring	Value-burden sharing: Delivers moderate debt relief to debtor and payment deferral	10–20-year maturity extension Large reduction of coupon and/or moderate principal reduction	Brady restructurings for Mexico, Brazil, the Philippines and Uruguay Ecuador, 2000	30–50% Moderate permanent impairment of capital	20–50% Direct debt/GDP savings through principal reduction or below normal financing costs
Hard Restructuring	Value-burden sharing: Delivers deep debt relief to debtor and significant payment deferral	20–30-year maturity extension Large reduction of coupon Large reduction in principal	Argentina, 2005 and 2010 Greece, 2012	50–75% Deep permanent impairment of capital	50–75% Direct debt/GDP savings through principal writeoff and additional savings from reduced coupons

Source: Author.

Notes:

1. The Appendix presents a range of stylized debt restructurings to illustrate the options available and the NPV effect.

2. *Data sources*: Sturzenegger and Zettlemeyer (2006,194, 323, 213, 236, 285, 333); Zettlemeyer, Trebesch and Gulati (2013,19); and Cline (1995, 234-35).

3. Most market analysts use exit yields in the 15–20% range to calculate NPV effect of changes in cash flows in a distressed exchange offer. NPV effects ranges are calculated here based on a common 10% discount rate to allow inter-transaction comparability as suggested by Das, Papaioannou and Trebesch (2012a, 10; 2012b).

4. Debt relief enjoyed by an issuer is typically much less than the market NPV loss, as pointed out by Sturzenegger and Zettlemyer (2007). A 6% discount rate is used here to reasonably reflect the cost of servicing debt in normal times. The expected inflation rate or the cost of any available concessional financing might be alternatives.

While not the focus here, the systemic effect of transactions on financial institutions needs to consider the change in the market price of securities. In such an analysis, the price of the bond before the transaction is compared to the market value of the bond after the transaction, which involves discounting the new instruments at the estimated post-transaction market yield, or "exit yield." Exit yields, and more generally post-transaction performance of restructured bonds, provide an important barometer of the credibility of the debtor's Fund-supported economic program. High exit yields and low or falling bond trading prices would indicate a lack of confidence in the program and show that the market believes a follow-on restructuring is likely, while collapsing yields and steadily rising bond prices would show that the program is working catalytically.

REPROFILING: SETTING THE BOUNDARIES

While the IMF's definition of a "typical" debt reprofiling is reasonably clear — a relatively short extension of maturity with no loss of coupon or principal — observers should expect a great deal of variation in how transactions are implemented. As noted by the IMF, case-by-case flexibility is required, as a transaction needs to reflect the actual profile and terms of an issuer's debt. In some cases, a longer extension or unequal extension of tenor of various bonds may be required to assure a smooth maturity profile after the transaction, whereas a rigid rules-based approach would often create excess maturity peaks or other suboptimal outcomes. Uruguay's 2003 reprofiling provides a good case study in pragmatism: the country chose to reprofile all of its debt in a comprehensive transaction, sought a five-year extension on most bonds, customized the offers bond-by-bond to equalize NPV effects and offered additional options for investors to choose to switch into certain benchmark bonds. While the Fund advertises that "typical" terms should be seen as a starting point, it might be prudent to move the goalposts so that investors can expect five years of bonds might often be targeted and that these bonds might be extended by an average of five years to avoid bunching.

With this said, to keep the character of reprofiling transactions consistent with the way it has been advertised, it does not seem to be in the spirit to label transactions reprofilings when they involve a significant extension of maturity (perhaps by seven or more years), significant coupons cuts or any principal haircuts. If this happens, the term reprofiling will lose its distinctive meaning as a subcategory of debt restructurings, and the Fund's new exceptional access framework that relies on these differences could lose credibility.

But there are some predictable situations in which the boundaries set out in Table 1 could be crossed while keeping in the spirit of the scheme. Take the case of Ukraine's 2000 debt restructuring, in which short-dated bonds were extended to new bonds with an average life of five years. It would be a reprofiling, except the coupons on a number of bonds were substantially reduced, for example the coupon of one US dollar bond was reduced to 11.00 percent from 16.75 percent via the exchange offer (Government of Ukraine 2000, 8). That is a big cut — and puts the transaction into the category of "soft debt restructuring" on the basis of features. The problem is that those coupons were so high and so far above inflation rates and international comparables that locking them at those levels in a rigid rules-based approach would have provided a windfall profit to investors, whereas the spirit of the operation was to give the country some breathing space. Here it seems that coupon cuts could be warranted while still labelling the transaction a reprofiling. However, to be fair to investors when a reprofiling targets bonds with coupons well below prevailing market rates (or expected inflation), coupon bump-ups should also be possible. To manage the expectations of market players it might be helpful for the Fund to specify some guidelines in this area.

MARKET SWAPS AND MEGA-SWAPS

Before applying the new framework to the situation in Ukraine, it is useful to discuss market-based swaps and distressed exchange offers.

Market swaps are voluntary transactions done in good times in which an issuer of bonds repurchases short-dated debt and issues long-term debt to the same investors. These are normal day-to-day transactions done by countries in good standing and are not "debt restructurings." They are done on market terms, and typically at attractive rates, as issuers choose to carry them out when borrowing costs are below historical norms. For consistency of usage it is better to use the terms "market liability management transactions" or "market swaps" to describe these transactions rather than "reprofilings" or "restructurings."

In a distressed exchange offer, an issuer under duress and without the support of the Fund or outside lenders of last resort will seek to push out looming debt maturities, typically at extraordinarily high interest rates. Prior to its default in 2001, Argentina carried out a transaction known as the "mega-swap" of US$30 billion of its bonds (IMF 2004, 94) that has been criticized for having increased Argentina's debt burden, although it was carried out at fair value when evaluated at the (relatively high) market yields prevailing at the time. This transaction is a good case study for where the market-based NPV analysis shows a fair-value transaction, while a debt relief calculation done at real or long-term interest rates shows a big increase in the debt burden.

UKRAINE: A BURDEN-SHARING ANALYSIS

Let us examine whether the new nomenclature is useful for understanding what has been happening in Ukraine. Should we expect a restructuring or a reprofiling? Here, it is interesting to try to answer this question for the conditions that applied in 2014 as well as today.

Much was written in 2014 on whether Ukraine should carry out a debt reprofiling (Eichengreen and Lombardi 2014). The country's debt to GDP ratio started the year near 40 percent, the outlook for the new government seemed promising and the containment of hostilities seemed possible. At the time of the initial IMF US$17 billion program in April (IMF 2014a), the country could have carried out a reprofiling to lock in creditors in light of the uncertainties at hand. But the new reprofiling policy was not in place and a debt operation at that time could have been destabilizing. In any case, the relatively low (albeit quickly growing) debt-to-GDP did not seem to justify action on the debt. There could be some regret here for everyone left in the game that a debt reprofiling was not carried out as had been proposed by some observers in 2014 (Nowakowski 2014, 1); the official sector that funds Ukraine should wish that the $1 billion June 2014 Eurobond and the September $1.6 billion Naftogaz bond had not been repaid in the course of the program, while remaining bond investors could be better off if the debt restructuring currently under negotiation had been put off for a few years.

In 2015, Ukraine finds itself in a notably worse situation, and that changes the framework for evaluating a possible debt transaction. Ukraine has suffered tremendous economic damage as a result of the war; the current geopolitical situation is an unhappy stalemate that could take years to resolve. The country has lost control of lands with important industries and human suffering is immense. A currency devaluation has boosted the cost of servicing foreign currency debt. Many more billions of dollars of official lending will be needed to stabilize the situation and to support the reform of Ukraine's economy. It seems unlikely that the country will bounce back to allow normal market access in a few years as would be presumed when a debt reprofiling is applied. Instead, the need for loss sharing points to the need for a deeper form of debt restructuring. The debt probably needs to be paid off over more than 10 years, coupons should probably be substantially cut or deferred to give near-total, near-term cash flow relief, and the focus of the negotiations is now on whether principal haircuts should apply (and if so, how much), given the vast uncertainties in the government's finances going forward (Moore and Donnan 2015).

Much more data on the situation in Ukraine is provided in the IMF's recent staff report (IMF 2015), and an in-depth independent analysis is provided in Susan Schadler's policy brief published by CIGI (Schadler 2014).

CONCLUSION

Debt reprofiling is an important new concept that has entered into the policy debates around private sector involvement in the resolution of sovereign debt crises. The concept has a lot of power when used to describe transactions that focus on extending the maturity of short-dated bonds in the context of an IMF program. The commercial effect is to give an issuer breathing space to let its economic program work; it also effectively stabilizes a country's funding costs at historical levels and locks creditors into the system should future losses need to be born. However, a reprofiling of maturities is a financing transaction that does not generate debt relief since payments are delayed rather than reduced. Therefore, when this strategy is used, the change in debt sustainability will be driven by the success or failure of fiscal policy or growth-increasing initiatives. The concept of reprofiling, however, loses meaning if used too loosely; restructurings should be clearly differentiated from reprofilings, and transactions done on market terms should be clearly demarcated.

Methodologically, this paper argues for the systemic comparative study of debt transactions. In many studies, restructurings are treated in a binary fashion — debt is restructured or it is not. The Fund helps improve the scholarship by now segmenting reprofilings from other restructurings, but more can be done. Policy makers and investors would gain useful insights from further studies focused on both the frequency and relative strength of debt restructurings.

With this said, and as illustrated in the case of Ukraine, this paper has only scratched the surface of the policy issues surrounding the Fund's proposed exceptional access policy and reprofiling. The paper focuses on definitions in the hope that debates in this area are carried out among parties using consistent terms. Questions remain to be addressed. How frequently will the Fund require countries to use reprofiling as a tool? How will the loss of market-access trigger really be defined? How convincing must a country's debt sustainability be for the country to qualify for a reprofiling instead of a restructuring? How to manage the predictable pressure to have reprofilings stand in when restructurings are the appropriate solution? Will the scope regularly include domestic debt? Will the Fund mandate that all targeted debt is reprofiled, or just a good portion? Would the Fund allow formal and informal financing assurances to substitute for contractual reprofiling? How do Fund programs with reprofilings retain their strong

catalytic power in boosting market confidence if the Fund adopts a lower standard in these cases? And should the Fund really tie the removal of the systemic exemption to the new reprofiling policy — as these seem to be two very different matters? Much remains to be discussed, but hopefully the definitions proposed in this paper can help in these important policy debates.

ACKNOWLEDGEMENTS

While taking full responsibility for the views expressed in this paper, the author would like to thank the following individuals as well as anonymous and unnamed reviewers for their helpful comments and discussions: Azucena Arbeleche, Edward Bartholomew, Charles Blitzer, Robert Kahn, David Nowakowski, Jeremy Pam, Amy Resnick and Jeromin Zettelmeyer.

APPENDIX: STYLIZED DEBT RESTRUCTURING EXAMPLES WITH CALCULATION OF NPV HAIRCUTS AND DEBT RELIEF

Table 2 presents stylized examples of the restructuring of a two-year bond with a six percent coupon into a new bond with a longer maturity, or lower coupon or subject to a reduction of principal amount in line with the indicated category.

The NPV haircut is calculated for each example, following Das, Papaioannou and Trebesch (2012a, 10; 2012b):

Haircut = 1 - Present Value of New Debt/Present Value of Old Debt.

For each example, the Debt Relief column is calculated using the same metric, but with a lower discount rate to reflect the cost to the normal market cost to the issuer of servicing the debt to maturity, following Sturzenegger and Zettlemeyer (2007).

Table 2: Stylized Terms, NPV Haircut and Debt Relief for the Restructuring of a Two-year 6% Coupon Bond

Transaction Category	Terms of New Bonds: Tenor and Coupon; Principal Haircut	Market NPV Haircut at a 10% (15%) Discount Rate	Debt Relief to Issuer at a 6% Discount Rate
Reprofiling	5-year 6% coupon; no principal haircut	9.0% (18.6%)	0%
	7-year 6% coupon; no principal haircut	13.7% (27.2%)	0%
Soft restructuring	12-year 6% coupon; no principal haircut	22.1% (40.4%)	0%
	10-year 4% coupon; no principal haircut	32.6% (48.3%)	14.9%
Medium restructuring	15-year 4% coupon; no principal haircut	42.0% (58.7%)	19.6%
	15-year 6% coupon; 25% principal haircut	44.1% (58.6%)	25.0%
Hard restructuring	30-year 2% coupon; no principal haircut	73.9% (83.0%)	55.4%
	20-year 4% coupon; 50% principal haircut	73.9% (81.9%)	61.6%
	20-year 6% coupon; 75% principal haircut	82.3% (87.2%)	75.0%

Source: Author.

Observations:

- The classification scheme is robust as the transactions remain in consistent groupings (albeit at higher haircuts) when the market discount rate is increased from 10 to 15 percent.
- The three examples where coupon and principal are not reduced show zero percent debt relief notwithstanding the potentially large NPV haircuts to investors resulting from using market-type discount rates. This divergence should rectify in the scenario that the country's outlook improves — market yields would fall and investors' losses would converge to the levels shown under the Debt Relief column, in the case of reprofilings to zero loss.

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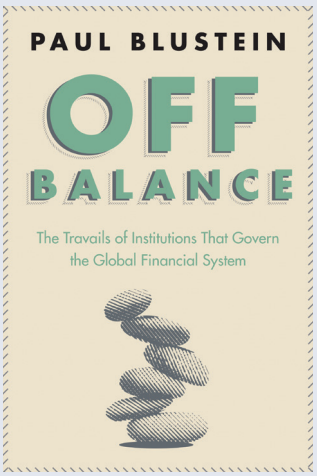

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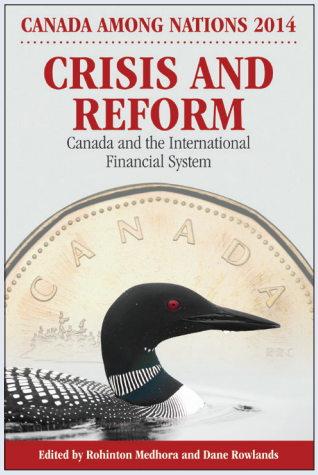

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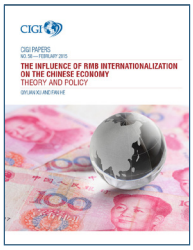

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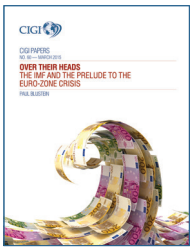
Qiyuan Xu and Fan He

Since China's pilot scheme for RMB cross-border settlement was launched in 2009, it has become increasingly important for monetary authorities in terms of macroeconomic policy frameworks. The authors use an analytical model that includes monetary supply and demand to examine the influences of RMB cross-border settlement on China's domestic interest rate, asset price and foreign exchange reserves. They also look at how RMB settlement behaves in different ways with the various items in China's balance of payments.



Over Their Heads: The IMF and the Prelude to the Euro-zone Crisis

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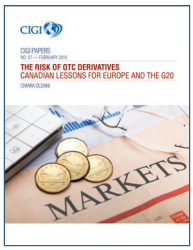
The years prior to the global financial crisis were a peculiar period for the International Monetary Fund (IMF). It was struggling to define its role and justify its existence even as trouble was brewing in countries it would later help to rescue. To understand the Fund's current strengths and weaknesses, a look back at this era is highly illuminating. Three major developments for the IMF, spanning the years 2005–2009, are chronicled.



The Risk of OTC Derivatives: Canadian Lessons for Europe and the G20

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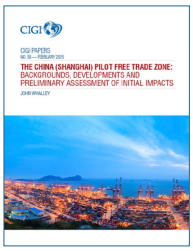
Over-the-counter (OTC) derivatives played an important role in the buildup of systemic risk in financial markets before 2007 and in spreading volatility throughout global financial markets during the crisis. In recognition of the financial and economic benefits of derivatives products, the Group of Twenty moved to regulate the use of OTC derivatives. Attention has been drawn to the detrimental effects of the United States and the European Union to coordinate OTC reform, but this overlooks an important aspect of the post-crisis process: the exemption of non-financial operators from OTC derivative regulatory requirements.



The China (Shanghai) Pilot Free Trade Zone: Backgrounds, Developments and Preliminary Assessment of Initial Impacts

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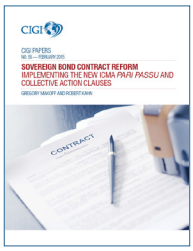
John Whalley

The China (Shanghai) Pilot Free Trade Zone (SPFTZ) was founded in September 2013, and up until now relatively little has been written in English about this unique initiative. This paper reviews the background and reasons for the SPFTZ, how it has developed and the impact it has had since its opening.



Sovereign Bond Contract Reform: Implementing the New ICMA *Pari Passu* and Collective Action Clauses

CIGI Papers No. 56
Gregory Makoff and Robert Kahn

The International Capital Market Association (ICMA) has recently published proposed standard terms for new, aggregated collective action clauses. Concurrently, the ICMA released new model wording for the pari passu clause typically included in international sovereign bond contracts. These announcements and the commencement of issuance of bonds with these clauses are an important turning point in the evolution of sovereign bond markets.

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ABOUT CIGI

The Centre for International Governance Innovation is an independent, non-partisan think tank on international governance. Led by experienced practitioners and distinguished academics, CIGI supports research, forms networks, advances policy debate and generates ideas for multilateral governance improvements. Conducting an active agenda of research, events and publications, CIGI's interdisciplinary work includes collaboration with policy, business and academic communities around the world.

CIGI's current research programs focus on three themes: the global economy; global security & politics; and international law.

CIGI was founded in 2001 by Jim Balsillie, then co-CEO of Research In Motion (BlackBerry), and collaborates with and gratefully acknowledges support from a number of strategic partners, in particular the Government of Canada and the Government of Ontario.

Le CIGI a été fondé en 2001 par Jim Balsillie, qui était alors co-chef de la direction de Research In Motion (BlackBerry). Il collabore avec de nombreux partenaires stratégiques et exprime sa reconnaissance du soutien reçu de ceux-ci, notamment de l'appui reçu du gouvernement du Canada et de celui du gouvernement de l'Ontario.

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CIGI MASTHEAD

67 Erb Street West
Waterloo, Ontario N2L 6C2, Canada
tel +1 519 885 2444 fax +1 519 885 5450
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