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I. Background

1. One major topic on the G-20 agenda of the French presidency[1] is the prevention of new risks arising from shadow banking, ensuring the risks are not passed on to financial institutions not covered by banking regulations". In the present memo, we focus on shadow banking by suggesting a stricter congruence between regulated financial territory and the business model of banks and other regulated financial institutions. We recommend imposing certain minimum regulatory restrictions on all major counterparties of regulated banks and other financial institutions. Regulation of these entities should move in lock step with the US and the UK.

Other priority items on the French presidency's agenda, i.e. the regulation of commodity markets, and an improved protection for consumers of financial services are not addressed in this report. We do, however, comment on the second major agenda topic, namely "making sure that the rules decided upon are applied". We address specifically two issues of great importance for an effective application of new rules, namely the build-up of a sufficiently broad and deep data base for analyzing systemic risk analysis, and the need for further work on a comprehensive resolution regime covering cross-border banking.

2. Shadow banking is functionally equivalent to regular banking, without being subject to the relevant legislative framework, e.g. the Kreditwesengesetz (KWG) in Germany. When we speak of the shadow banking system, we follow the definition of the Financial Stability Board (FSB)[2]. A shadow banking system is "*a system of credit intermediation that involves entities and activities outside the regular banking system, and raises i) systemic risk concerns, in particular by maturity/liquidity transformation, leverage and flawed credit risk transfer, and/or ii) regulatory arbitrage concerns.*" Key to this definition is the exposure of regular financial institutions, particularly banks, to institutions (e.g. investment vehicles like money market mutual funds (MMMF) or hedge funds and security brokers and dealers) or entities (e.g. special purpose vehicles, or credit default swaps) that do not belong themselves to the set of supervised institutions. Shadow

[1] http://www.g20-g8.com/g8-g20/g20/english/priorities-for-france/the-priorities-of-the-french-presidency/sheets/financial-regulation.338.html

[2] Financial Stability Board (April 2011): Shadow Banking: Scoping the issues. A background note of the Financial Stability Board, 12 April 2011 (9 pages); Financial Stability Board (October 2011): Shadow Banking – Strengthening Oversight and Regulation, 28 September 2011 (47 pages).

banking may also involve *activities*, rather than institutions or entities, as for example securitization, securities lending, and repo transactions.

Consider a bank relying on the interbank market for funding. The bank is required to post collateral securities of high quality. Apart from government securities, such high (triple-A) quality securities may represent senior tranches of a CDO (collateralized debt obligation), a diversified asset portfolio s. A credit default swap (CDS) written by a mono-line insurance company may be used to further increase the quality of the collateral asset.

In this example, shadow banking refers to the credit relationships exposing regulated banks to non-regulated, or less-regulated entities outside the regular banking system which are the counterparties in asset purchases, or hedging transactions. Such relationships may nevertheless contribute to systemic risk, as they imply maturity transformation or leverage, both of which may provoke a run on borrowers, possibly infecting the regular banking system.

Even if there is no effect on systemic risk, the shadow banking system may serve to conduct regulatory arbitrage, thereby undermining the relevant regulatory principles – though perhaps not the rules – of bank soundness, and diluting their intended effects.

The shadow banking system is related in several ways to the current financial crisis. For example, the securitization of subprime credit allowed overall mortgage lending to expand greatly, contributing to the rise in US housing prices. Similarly, the problems that emerged in the wholesale (interbank) repo lending market since the Lehman default were closely related to the use of securitized products as collateral, while the underlying SPVs relied on short-term funding from short-term money market funds[3].

3. There are currently two main regulatory efforts relating to the shadow banking system. The first one, led by the FSB, focuses on systemic risks involving "other financial institutions", the second one, led by the European Parliament and the Commission, focuses on the alternative investment fund (AIF) industry[4]. The FSB

[3] In Germany, the fall of the IKB was caused by its (unconditional) liquidity guarantee vis-à-vis an SPV, which itself was part of a shadow banking operation.
[4] In the US, the Alternative Investment Funds (AIF) industry is dealt with in the Dodd-Frank act, which has also created a consumer protection agency.

has published a report for consideration at the G-20 meeting in Cannes, while the European Commission has put forward the AIFM-directive[5], currently in the Brussels legislative process.

a) The FSB report focuses on the shadow banking system as instruments, markets, and entities not subjected to regulation with respect to systemic risk and regulatory arbitrage. Currently, monitoring of the shadow banking system is being performed from two perspectives, a macro (system-wide) and a micro (entity-based) perspective.

- The Shadow Banking Task Force of the FSB has engaged in a data collection exercise over the summer and has made available aggregate statistics on the macro perspective as of September 2011. The statistics show that the shadow banking system, defined as the aggregate of "other financial institutions"[6], is only about half the size of the regular banking system. In addition, though the size of the shadow banking system has risen over the past ten years, it has done so in parallel to the regular banking system. Since the start of the financial crisis in 2007, the shadow banking system did not grow at all. The FSB statistics show that the total size of the shadow banking system grew from $29 trillion in 2002 to around $63 trillion in 2007, for the jurisdictions covered (Australia, Canada, the Euro area, Japan, Korea, UK, and the US). During the crisis years these numbers decreased by 10 % in 2008, and recovered thereafter. By far the largest part of the worldwide shadow banking system operates from the US (with assets of $24 trillion in 2010), followed by the UK. It is worth noting that the absolute size of shadow bank activities in the Netherlands is larger than in Germany, France, and Japan. Overall, for the jurisdictions investigated by the FSB, the composition of the shadow banking system in the year 2010 is as follows, based on data from five Euro-area jurisdictions: investment funds other than MMMFs (32%), MMMFs (8%), structured finance vehicles (9%), Security Brokers and Dealers (8%), Finance companies (7%), and others (36%). However, the composition of the shadow banking system varies substantially across jurisdictions.

[5] See http://ec.europa.eu/internal_market/investment/alternative_investments_en.htm for an outline of the alternative investment fund managers (AIFM) directive.
[6] This is a narrow definition of shadow banking. For example, some of the instruments used to produce prime quality collateral for use by regulated banks, as mentioned in the example in the text, are not included in this definition.

- The FSB report argues in favour of several approaches for regulating the shadow banking system instead of only a single approach. In particular, four categories of regulation are proposed: direct regulation of shadow banking entities, indirect regulation (via regular banks), regulating activities instead of entities, and more broad measures relating to the entire system.[7] These approaches are seen as complementary and not as alternatives.

- The FSB report includes recommendations for an improved monitoring of the shadow banking system. The most recent recommendations (28 September 2011) deal with data collection, such as data quality issues, data comparability issues across jurisdictions, identification issues in the case of offshore entities, and the consolidation of shadow banking entities sponsored by the bank on its balance sheet.

- These FSB recommendations suggest explicit limits on the size and nature of a bank's exposure to shadow banking entities, as well as a proper consideration of risks related to investment fund and securitizations when assessing risk-based capital requirements for banks. Also, stricter regulatory treatment of implicit support for shadow banking entities (like SPVs), as well as a reform of MMMF regulation and of incentives in securitization transactions, are proposed.

b) The second line of regulatory approach to shadow banking proposed in the AIFM-directive currently in the legislative process in Brussels. The current version of the directive is a far-reaching attempt to standardize the rules of conduct for the managers of AIF. Its overarching objective is to achieve a high level of ex-ante consumer protection. The connection to banking is not developed in any greater detail.

The directive defines, among other things, broad standards for minimum equity requirements, for compensation and for fee structures, for the principles of asset

[7] The FSB report stresses the need for better monitoring based on improved data warehousing. This is in line with the main proposal of the Issing-Commission's first report (September 2008), the build-up of a comprehensive risk map, based on global identifiers for internationally active financial institutions.

valuation, for transparency and reporting, for principles of custody and prime brokerage, and for restrictions on the use of leverage at the AIF level.

The elaboration of the actual rules is delegated to European Securities and Markets Authority (ESMA), the European regulator. Note, however, that systemic risk issues are almost completely absent in this legislative project[8]. Our recommendations will address this shortcoming.

[8] One notable exception is the right to impose limits on counterparty exposure and leverage at the AIF level when systemic risk is imminent.

II. RECOMMENDATIONS

From a regulatory viewpoint, there are (at least) three economic reasons for being interested in shadow banking: shadow banking activities may contribute to systemic risk, they may allow for regulatory arbitrage, and they may pose an unnecessary, or undue risk to the consumer. On a general level, the nature of shadow banking is such that its evolution is partly driven by the rules and regulations of the regular banking system. This follows from the experience that shadow banking is functionally (almost) equivalent to traditional banking, but with lower costs, because of reduced to no regulatory requirements. Shadow banking, in this sense, is endogenous to the constraints imposed on regular banking. Thus, a direct attempt to define regulatory rules for specific entities has to be weighed against the risk of new institutional forms rising in response to the regulatory initiative. As an alert for the regulator, a vigilant agency is needed to monitor (and understand) new developments in the less regulated 'shadow' sectors of financial markets, even if regulatory efforts appear to be successful initially.

1. Demarcation[9] of regular banking

Our first recommendation refers to the declaration made at the G-20 meeting in London. It was demanded that[10] "all systemically important financial institutions, markets and instruments are subject to an appropriate degree of regulation and oversight, and that hedge funds or their managers are registered and disclose appropriate information to assess the risks they pose". It is now widely believed, that a direct regulation of all possible institutions, entities and instruments may be difficult, partly because they are endogenous to the system and its regulatory rules, suggesting an indirect approach to regulation instead.

We suggest exploring rules that would allow regular banks to enter into business transactions only with counterparties that are themselves subjected to some degree of regulatory oversight. Such a "demarcation rule" would not apply to households (as depositors or borrowers of banks), nor to non-financial companies (i.e. bank customers of all sort). By "exploring" we mean that the costs and benefits to be

[9] We use the term "demarcation" to describe the regulatory coverage of regular banks and their major financial sector counterparties. This is distinct from the a ring-fencing of retail banking, as recently proposed by the Independent Commission on Banking in the UK, chaired by Sir John *Vickers.* In our proposal, retail and investment banking are not separated.
[10] Communiqué, G-20 Meeting of Finance Ministers and Central Bank Governors, United Kingdom, 14th of March 2009.

expected from implementing such a demarcation rule should be assessed by way of either mandating a qualified task force at the FSB, or by conducting such an analysis independently.

The "degree of regulatory oversight" to be required of counterparty institutions must be defined and verified by supervisory agencies. The demarcation rule can be implemented in a weaker or a stronger version:

A weaker version of the demarcation rule would simply require all counterparties to be registered entities, allowing a proper map of exposures between financial institutions and financial entities to be drawn up.[11] To make it even weaker, the regulation could be limited in reach to the largest X (e.g. X=100) counterparties of any given institution. In this case, the proposal is close to the ongoing Legal Entity Identifier (LEI) project planned by the FSB. LEI seeks to assign global identifiers, in order to set up a map of interconnections between global systemically important financial institutions (G-SIFIs). It also allows mapping hierarchical holding structures that may exist among such entities. Thus, should FSB's LEI-project succeed, the demarcation proposal is merely an extension of it.

A stronger version of the demarcation rule would require all counterparties of a regulated financial institution to be properly regulated as well. "Properly regulated" relates to the business conducted by that entity, and has to be defined in more detail by the supervisory agencies. As a consequence, shadow and regular banking would be treated alike, e.g. by applying special capital charges relating to the risk potential of the respective counter party, as well as appropriate concentration limits. This last aspect is in line with currently proposed principles by the FSB.

For example, a bank buying or selling credit protection would only be allowed to enter into the contract if its counterparty is itself a "properly" regulated institution, unless it is an ordinary client, like a corporation or a household.

Appropriate enforcement rules would need to be established. For example, transactions with entities belonging to the unregulated shadow-banking sector would either be ruled out altogether (under the stronger version of the demarcation rule), or they would be subjected to appropriate capital charges or bank levies (under the weaker version of the demarcation rule). Feasibility of the rule requires a formal 'accreditation' of potential counterparties with an international agency, possibly the

[11] Registration entails information about basic characteristics of the entity at hand, e.g. ownership and lines of business.

FSB. Its task would consist of rating a particular counterparty institution as compliant or not. In the positive case, a 'passport' is granted and no further action is needed (and any regulated financial institution is free to do business with it).

Under the stronger version of demarcation, if the passport is refused, financial institutions are not allowed to entertain direct business relationship with these entities. These entities, in turn, and in order to continue their business model, will have to adopt structures – legal, organizational, and financial – bringing them under the umbrella of the regulated industry. Of course, from within the regulated industry, they are free to do any business with their clients – provided the regulatory rules pertaining to capital standards, liquidity ratios, leverage and so forth are enforced.

Clearly, the question of whether or not an institution is compliant could be crucial for the viability of its business model. This is why we suggest to assess the costs and benefits of such a bold indirect approach carefully before implementation. This is a task the FSB could fulfill.

Implementation of the demarcation rule would help to dry out capital flows from the regulated banking system into a largely opaque quasi-banking sector. This would, however, not necessarily imply that institutions in this sector would cease to grow. By the same token, demarcation will limit the exposure of banks to institutions or instruments outside the regular banking system.

However, demarcation is not a panacea. In the course of the current crisis, the systemic risk emerging from shadow banking entities, like the securitization of subprime loans, has been significant not because it had remained unreported but rather because it had remained misunderstood.

An important enabler for adopting the demarcation rule in the regular banking system would be a common, or joint approach by all major financial centers, in particular the US and the UK. This would avoid that competitive considerations render the effort futile. For this reason, the G-20 is the right forum to discuss the demarcation approach, and to request an evaluation of expected costs and benefits by the ESRB and the FSB within a certain period.

In the case of no joint support for a demarcation rule, in particular by all major financial centers, the question arises whether Germany or Europe (perhaps even without the UK) should go ahead on their own, or rather wait until an agreement is reached. In our opinion, a bold move towards demarcation by any individual country may increase rather than reduce

opaqueness and systemic risk, as the relevant lines of business of regulated financial institutions would be driven outside of the jurisdiction. We therefore propose to stick to the weak version of demarcation, as discussed above, as long as no international consensus on demarcation has been reached, and then move on in lock step.

2. Data and analysis – the role model of an "Office for Financial Research".

Concurring with the FSB and its emphasis on data generation beyond the boundaries of regular banking and financial markets, we support a bold – and widely visible – move into data gathering and data analysis. The intention would be to map more fully the financial exposures across and between institutions, including elements from the shadow sector. The demarcation approach described above would facilitate this endeavour, since it allows assigning global identifiers to financial institutions and entities – a prerequisite for mapping risk consistently in an international setting. These data should also help to understand more fully the potential sources of systemic risk and regulatory arbitrage that may emerge from particular financing patterns in the shadow sector.[12] As a benchmark, we refer to a newly created institution in the US, the Office of Financial Research (OFR), a government agency founded through the 2010 Dodd-Frank Act. The OFR, which is currently in the course of incorporation, is expected to have an enhanced data acquisition mandate, separate from that of the Federal Reserve. It is expected to get a significant budget.[13] OFR is mandated to carry out extensive analytical research to keep constantly track of financial sector dynamics and its economics. The agency-to-be is already starting to develop a proper research agenda, cooperating with an expert team at the National Bureau of Economic Research (NBER). As far as we know, there is no comparably bold plan for Europe – although the diverse institutional structures found across national banking markets in Europe signal a strong need for research on interconnectivity and financial architecture, perhaps more so than in other parts of the world.

Our emphasis on a risk map project is shared by the ECB and several other European institutions involved in the data gathering initiative (EUC, ESRB, ESAs). Some important technical issues, like the development of a global identifier, seem to have made some progress recently. We reiterate the need for overcoming national restrictions on the creation of international data sets, if company-level cross-border

[12] Shadow banking, as defined above, is a set of contracts that perform financial transformation services (maturities, risk and information) without being embedded in a legal entity with a banking license. Economic analysis is therefore required to identify shadow banking.
[13] The OFR budget is estimated to be large, up to more than a billion dollars per year (no reference available).

exposures are to be included in the risk map. The realisation of the risk map project is the basis for any other regulatory project on systemic risk monitoring, and its progress may well indicate how serious policy making gets about crisis prevention.

3. Taxing shadow banks

To the extent that shadow banking contributes to the build-up of systemic risk, the appropriate response, in a welfare economic sense, is to impose a (Pigou-)tax on such entities. The tax is small, or zero, for entities that contribute little to overall systemic risk, and it is significant otherwise. As a result, taxed entities are encouraged to restructure their activities in order to reduce the tax burden, thereby reducing overall systemic risk.[14] As for ordinary banks, the levy is intended to internalize the externality (the contribution to the level of systemic risk), thereby setting incentives for lowering systemic risk altogether. The information contained in the risk map may be used to determine each entity's contribution to systemic risk.[15] On that basis, a tax (in Germany: a levy commensurate to the *Bankenabgabe,* stipulated in the German 2011 restructuring law (RestruktG)) may be imposed on the entity, or its sponsoring financial institution, as an annual charge.[16]

According to the principles laid down in the German 2011 restructring law, uninsured liabilities and interconnections with other financial institutions serve as the reference base for the tax ("Bankenabgabe"). Note that this construction acknowledges that operations of shadow banks contribute to the system-wide banking risk and therefore are jointly responsible for government intervention by the lender of last resort. Furthermore, imposing levies on shadow banks will help to fill banking rescue funds, if the government seeks to build up such funds at all (as is intended in Germany). Finally, a (Pigou-) tax on shadow banks may facilitate the establishment of a global tax standard for systemic risk, further diminishing the risk of regulatory arbitrage.

4. Countering too-big-to-fail risks by strengthening bank-restructuring regulation.

A major source of systemic risk is now widely seen in the lack of appropriate restructuring legislation.[17] The German 2011 RestruktG is potentially a very good

[14] For the tax incentives to function well, the tax formula must prescribe clearly how the tax burden can be reduced.
[15] The measurement of systemic risk contribution by individual banks in a financial system is difficult, no canonical method exists yet. However, it is an active research field, and simple metrics have been suggested recently (see for example Tarashev, N., C. Borio, and K. Tsatsaronis (2009): The Systemic Importance of Financial Institutions, BIS Quarterly Review, 75-87.
[16] More could be added on the issue of the bank levy in Germany: The current level of the levy is probably too small to have a significant impact on bank behavior; furthermore, the build-up of the rescue fund is too slow to give relief to the tax payer.
[17] As was mentioned in the introduction, the fourth recommendation is not about shadow banking, but about an important step towards solving the too-big-to-fail problem.

example of how such legislation should be set up. It is a notable strength of this legislation that it addresses bank-individual systemic risk contributions (via the instrument of the bank levy, 'Bankenabgabe'), and that it creates a new "police-law" outside the usual bankruptcy proceedings to allow authorities to separate a good bank (containing all systemically relevant exposures) from the remaining assets and liabilities, the bad bank. The bad bank, then, is where the "hair will be cut", freeing the path to private sector participation in bank losses. The private sector participation, in turn, is the key motivational driver for any prudent ex-ante credit risk management. This, finally, is the ultimate objective of the entire restructuring legislation – assuring markets that there are enough private bank creditors who are motivated to monitor bank risk taking.

There are three obstacles hindering restructuring legislation to be effective today. These three obstacles are: the lack of international coordination, the absence of a strategy how to engineer the separation of a good from a bad bank, and the failure to render haircuts credible.

First, the lack of international harmonized regulation relating to the restructuring of defaulting banks (and financial institutions more generally) poses huge problems even for real-world single bank defaults, let alone for a systemic crisis event. The design and implementation of a coordinated international resolution regime, which is firmly embedded in national legislation, is a pre-requisite for a credible bail-in commitment pertaining to systemically important financial institutions (SIFIs). Policy makers and supervisory agencies are well aware of the importance of this issue – nevertheless no substantial progress has been achieved to date. We therefore strongly recommend initiating the necessary activities, preferably by setting up a task force endowed with a clear inter-continental mandate.

Second, engineering a separation of a good and a bad bank is required if bail-ins are meant to work in a moment of bank default, while at the same time all systemically important exposures of the defaulting entity remain protected by a government guarantee. The very task of singling out the exposures deemed systemically important may be impossible to do over a short time horizon, like the typical Friday-to-Sunday periods during which the rescue operation of an ailing financial institution has to be completed. It is therefore important to set up a strategy how to prepare adequately for weekend "X". These preventive preparations need to be taken care of by a

sufficiently staffed agency, or administration, that largely works according to the role model of a fire brigade: studying the details of all sites that may experience a blaze in the future, preparing the equipment such that the peril, should it materialize, can be dealt with. Such preparations may or may not involve living wills – in any case a specialized unit with sufficiently qualified personnel must be set up such that the necessary preparations can be made.

Third, the issue of effective haircuts, a pillar of the restructuring legislation in Europe, the UK and the US, is still only half-resolved. While in principle, the German restructuring legislation could be seen as a role model for similar endeavours in other countries, the current legislation needs an important extension to become truly effective. Since the same extension is needed in other countries as well to render private sector participation effective around the world, the issue is suited for the G-20 meeting.

The missing element in Germany's, and other countries', legislation is an ex-ante understanding of the role of haircut-takers, and the assignment of this role to particular investors. Since currently there is no such assignment, bail-in procedures do not work effectively. In a distress situation, financial institutions are typically the holders of the relevant debt, effectively limiting the possibility of a haircut, due to systemic risk concerns. The only way out of this dilemma seems to ensure a pre-assignment of the identity of haircut-able bank debt holders.[18] The obvious candidates for this role are life insurance companies and pension funds – both institutions have very long debt durations and are the least likely institutions to experience a run on their assets. Furthermore, holding haircut-able (defaultable) bank debt is lucrative for these funds ex-ante as the coupon of these instruments is expected to be high. As a positive by-product, large funds and insurance companies will be induced to take on an active role in the governance of banks, e.g. via membership in their supervisory boards, pushing these institutions towards moderate risk levels and improved risk management practices.

[18] For instance, this may be done in the form of Cocos (contingent convertible bonds).

III. CONCLUSIONS

This report focuses on shadow banking and the too-big-to-fail issues.

- **Shadow banking.** Our main recommendation addresses the regulation of the shadow banking system. We suggest a "demarcation rule" which defines the permissible business transaction partners of regular banks and other regulated financial institutions. In its mild form, the demarcation rule implies that all counterparties of a regulated financial institution must be registered entities, allowing the supervisor to observe more fully the interconnections and other structures in financial markets. In a tougher variant, the demarcation rule would demand that all counterparties of a regulated financial institution are themselves properly regulated institutions. Leaving technical details aside, of which there are some, the tougher version of the demarcation rule closes the business relationships between regulated financial institutions and any non-regulated segment of financial markets. In order to explore the willingness of other countries to move into the direction of demarcation, and to assess, the real costs of such a restriction, we propose to start with the weak version of demarcation (i.e. registration of all major counterparties, e.g. the largest 100), and move to tougher versions of demarcation in lock-step with other countries only, particularly the UK and the US. The weak version of merely registering counterparties is commensurate to the legal entity identifier-project currently planned by FSB, which seeks to assign identifiers to banks, firms, entities and counterparties in a globally consistent way.

  As a caveat, one has to think about the consequences a demarcation policy would have on the activities in financial markets. On a general level, demarcation will send some activities abroad, meaning beyond the demarcation line. In this case new entities will emerge and new activities will be undertaken by existing companies or by new firms in order to remain in the shadow. For example, non-financial corporations may take over part of today's shadow banking activities, like writing credit insurance contracts, setting up investment funds, or providing lending facilities to clients. Furthermore, bank-equivalent transactions may develop, omitting links to the regular banking system altogether. In this case, an entirely new banking system could emerge which

initially is not regulated. The possibility of these things happening should remind the regulator to constantly monitor not only the 'demarcated' part of the system, but also to be vigilant with respect to new developments in financial markets. Its mandate should be extended accordingly. A comprehensive set of data on financial activities and entities in the economy is a prerequisite for careful monitoring – which motivates the following, second recommendation.

- **European data project.** Our second recommendation refers to the build-up of a comprehensive data set of financial interrelationships in markets. We suggest to scrutinize the initiative of the US government in setting up an Office of Financial Research, and to create a similar institution in Europe. The mandate of such an institution would be to collect and aggregate data on financial institutions, entities and markets in order to assess systemic risk and its potential causes on a regular basis. This new institution would, of course, liaise with the OFR early on in order to standardize procedures, in particular agreeing on global identifiers.

- **Systemic risk charge**. The third recommendation is to require shadow banking to be subjected to a systemic risk charge, commensurate with a properly set bank levy (e.g. "Bankenabgabe" in Germany). Such a charge would help to avoid regulatory arbitrage. The charge could be imposed on shadow banking entities, or on their sponsoring financial institution.

- **Reminder: Bank restructuring.** Our fourth recommendation is to address the obstacles hindering restructuring legislation to be effective in many countries today: the lack of international coordination, the absence of a strategy how to engineer the separation of a good from a bad bank, and the failure to render haircuts credible.