Response to the call for feedback on the Financial Stability Board's

"Evaluation of the effects of too-big-to-fail reforms: consultation report"

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The Financial Stability Board (FSB) has conducted laudable efforts to evaluate the effects of too-big-to-fail (TBTF) reforms that resulted in a detailed and comprehensive report. Against the backdrop of still ongoing dramatic changes to the regulatory and supervisory framework, such an evaluation is highly needed and represents a crucial contribution to assess the consequences of recent TBTF reforms.

The main conclusion from the report is that TBTF reforms successfully increased the resilience of the financial system. Capitalization of large banks improved, resolution regimes were established, and banks are overall subject to enhanced supervisory standards. At the same time, the report highlights important areas for further improvements, such as a the heterogenous implementation of TLAC requirements across jurisdictions, an increasing importance of domestic systemically important banks (D-SIB), and the rise of new financial institutions of systemic relevance, especially central counterparties (CCP). In the following, we comment on the questions raised by the FSB.

1. Does the report draw the appropriate inferences about the extent to which TBTF reforms have achieved their objectives?

The report clearly outlines the TBTF reforms and conducts an extensive number of case studies based on different data and methods to evaluate the impact of these reforms. As also stated in the report, it remains extremely challenging to establish a causal relationship between the reform and banks' adjustments due to many confounding regulatory and supervisory changes in the post-financial crisis era. The report carefully highlights these limitations. At the same time, the totality of results provides important insights about plausible correlations that point towards qualitatively similar "directions", e.g. the reduction of banks' funding cost. Whereas the qualitative direction of intended effects oftentimes is robust, it is much more difficult to assess quantitative adjustments, such as the magnitude of funding subsidies. Importantly, any normative assessment of whether effects are "too large" or "too small" requires a more explicit statement how the objectives of TBTF reforms are defined, preferably in observable quantities

that measure the negative externalities that the reforms should reduce, e.g. systemic risk and moral hazard. Overall, the report therefore draws, in our view, adequate inference at the expense of being occasionally not very concrete about resulting needs for policy actions and their timing.

2. Does the report identify suitable findings for consideration by the relevant policy-making bodies?

Without doubt, the report provides a good overview of ongoing dynamics in the banking system that can be useful for policymaking. At the same time, the assessment also highlights some important differences across jurisdictions regarding the implementation status of TBTF reforms. A recurring theme is the importance of cross-border coordination of supervisors in exchanging information about the financial health of SIBs in their jurisdiction, especially D-SIBs, prior to stress and about resolution practices after bank failures. Thus, the documented differences in implementing the laudable new measures, such as TLAC and resolution regimes, probably have to be flanked by an effective supra-national governance of supervisors as well. Thereby, one can avoid gridlock of resolution efforts due to national and political considerations that may override supra-national economic interests and needs during the execution of painful decisions in case of bank failures. Especially against the backdrop of an increasing importance of D-SIBs, which are most likely even closer to national rather than European supervision and political interests, any recommendations on how to strengthen the supra-national executive powers to ensure an effective and speedy enactment of resolution procedures seems of imperative importance. Otherwise, each individual bank failure in the future is a candidate for exemptions from the TBTF resolution practices on grounds of particular national interests that do (rationally) not internalize the supra-national social costs and benefits of such exemptions, e.g. undermining of credibility and ultimately occurrence of moral hazard. This gap could have been articulated clearer in this report on grounds of the documented differences in the speed and intensity of the implementation of TBFT reforms across jurisdictions.

3. Are the analytical approaches used to evaluate the effects of the TBTF reforms appropriate? Are there other approaches to consider?

The report applies a number of sophisticated empirical methods (e.g. difference-in-differences estimation, event studies, panel regression analyses, etc.) to replication and updating exercises of academic work together with case studies, interviews, and feedback panels. This augmentation of scientific methods is an important and crucial step in policy evaluation that we welcome very much so as to enhance the tractability of policy making. It would be a significant accomplishment if these practices become the new standard among policy makers.

Among the many findings, the report provides evidence that systemic risk indicators of TBTF banks have declined, a welcome result that bodes well for financial stability. However, this

conclusion hinges critically on the choice of risk indicators and, for as far as these indicators are based on market perceptions, the assumption that financial markets function efficiently. The idea that agents gather and process information that is subsequently fully reflected in accurate and precise prices is not unchallenged though. Meta evidence from experimental research casts, in fact, some doubt on this presumption, reporting that at least economists tend to believe that markets are more efficient than they really are (Page and Siemroth 2020).

Thus, a potential further improvement in the analytical approaches towards FSB policy evaluations could be a systematic consultation of stakeholders (market participants, national regulators, supranational policy makers, bank owners, bank managers, bank creditors, depositors, etc.) by means of simple laboratory experiments. Thereby, one may also complement some of the inherent methodological challenges of partial equilibrium empirical analyses (high internal consistency, little external validity) and calibrated general equilibrium analyses (high generalizability and theoretical tractability, heavy reliance on assumptions and coarse modelling of mechanisms).

Taken the empirical findings at face value, one concern is that systemic risk indicators may decline in good times, but will also increase instantaneously after a sufficiently large and unexpected shock. Such a pattern would be problematic if banks are still large and thus TBTF. These considerations result in the question of whether not only systemic risk indicators of TBTF banks are relevant or whether the mere existence of a TBTF bank poses a risk that should be resolved. The question is especially important acknowledging that the largest banks grew larger rather than smaller (The World Bank 2018). Likewise, the largest banks in the euro area seem to keep an important market share over time (ECB 2017). Hence, even if there is some downward trend in market concentration, the TBTF challenge to financial stability appears to remain unsolved.

4. Is there relevant causal evidence of the TBTF reforms that can complement the findings of the report?

The report gathered comprehensive evidence from published academic work, which leaves little to add on this point. One additional study of potential interest is Degryse et al. (2020), who provide new evidence on G-SIB status and lending. More indirectly, a study by Bonfim and Kim (2019) sheds light on collective moral hazard by banks when managing liquidity risk, which practically involves the management of TLAC eligible assets and liabilities. Again, overall it seems notoriously challenging to isolate causal effects of a single reform during the relevant time frame in a reduced form empirical analysis. Therefore, it might be futile to search for one single, dedicated analysis. Instead, relying in the spirit of this report on a holistic assessment of the totality of evidence available is sensible.

5. The analysis was carried out before the COVID-19 pandemic, which may have produced new evidence relevant to the evaluation. Within the terms of reference, what updated analytical work would be most useful?

For European banks, Schularick et al. (2020) study whether (large) banks have enough capital to support the recovery from the COVID-19 pandemic. Based on different scenarios, they find that the capital shortfall is substantial, ranging between 143 and 600 billion Euros. In a cross-country study of 88 financial crises taking place in 78 economies since 1990, Ari et al. (2020a,b) highlight the importance of non-performing loan (NPL) resolution to mitigate financial instability shocks. Hence, it might not be only sheer size, connectedness, complexity, or other criteria to define SIB in the current COVID-19 crisis that matter, but the relative importance of NPL on the balance sheet of banks that we would have not consider systematically relevant until today. Given that differences in the abilities to recover NPLs are crucial to explain aggregate economic recovery after a crisis, the role of NPLs might deserve more attention also in the context of assessing the existence and relevance of potential (implicit) TBTF guarantees. Related to this point, Gropp et al. (2020) assess in how far potential losses in the real sector might be a threat to banking stability for the German banking system. Importantly, they find that the crisis does not only cause stress for TBTF firms but especially for smaller savings and cooperative banks.

This result raises the broader issue of the relative importance of TBTF guarantees and reforms versus potentially equally important too-many-to-fail and too-many-to-rescue concerns, which are not further studied and assessed in the present report. A follow-up assessment along these lines would be important to critically review the adequacy of the regulatory focus on a few large banks as opposed to many smaller banks forming clusters of systemically relevant swarms as well as non-bank financial intermediaries and institutions that may matter even more in times of aggregate real shocks, such as the COVID-19 situation.

TBTF reforms

6. Does the report accurately describe the ways in which TBTF reforms may affect banks' behaviour and markets' responses? Are there other channels that the evaluation has not considered?

The report focuses on TBTF banks, which makes sense as reforms aimed at lowering the prevalence of these banks. However, since the recent financial crisis, reforms have not only focused on TBTF banks, but also on the banking sector in general. This re-regulation of the banking sector has resulted in a complex set of new regulatory and supervisory rules. Such a regulatory burden can impose additional costs on banks and thus set incentives for regulatory arbitrage as well as benefit competitiveness of non-bank financial intermediaries. For example,

Fiordelisi et al. (2017) find that banks supervised by the Single Supervisory Mechanism reduced lending activities more than other non-SSM banks, which indicates that market structures can change following regulatory adjustments that are specific to large and systemically important banks.

Especially, the joint occurrence of a higher degree of regulatory complexity and digitalization might give rise to FinTechs entering the market or banks cooperating with the former. Such changes in the market structure might lower the TBTF risk but change the network structure and shift activities towards less regulated entities, which in turn can introduce new risks to financial stability. Hence, the report might give useful insights as concerns TBTF banks but its content might be driven by lessons learnt in the past.

Feasibility of resolution

7. Does the report accurately describe the remaining obstacles to the resolvability of systemically important banks (SIBs)? Are there other major obstacles that should be highlighted?

The establishment of a Single Resolution Mechanism for euro area banks and individual resolution schemes at the national level are a significant improvement compared to the pre-crisis framework. It helps lowering moral hazard due to bailout expectations and it reduces potential risk spillovers from banks to sovereigns. However, these objectives will only be reached if the institutional setting is credible. In the worst-case scenario, this requires that a bank in trouble is resolved and not bailed out by the government. The reviewed case studies on exceptions, all of which have *de jure* been compliant TBTF regulation, do nonetheless cast *de facto* doubt on the stringency with which unpleasant choices in such worst case scenarios will be taken.

Thus, we recommend continuing efforts to monitor the use of resolution schemes, in particular for TBTF banks, and their effect on market perceptions. In this context, the development of an implementation index in the report is extremely informative and useful. We suggest that a regular communication, perhaps as part of a regular FSB communication to the public, on this index as well as the use of resolution schemes may help to increase awareness among market participants, which jurisdictions are creating a safe and stable regulatory framework by implementing TBTF regulation.

This point is crucial given the global scope of the COVID-19 crisis that started only shortly after resolution schemes entered into force. Hence, there is no established routine on how to deal with banks in trouble. Instead of facing idiosyncratic cases, it is very likely that in the near future several banks will enter into distress at once. In such a systemic scenario, it could be that

there is a lot of political resistance, in particular by national authorities, against resolution and in case resolution does not take place, this, will question the newly established framework and potentially damage its credibility (see also Avgouleas and Goodhart 2015). Hence, it seems of utmost importance that there is clear communication by supra-/national resolution authorities that resolution and restructuring will take place, also during an event such as the pandemic. In such a systemic scenario, also the role of the Single Resolution Fund should stick to not setting signals about using the funds to bailout banks, especially having in mind that a sizeable amount of money has been collected by now (33 billion Euro in 2019).[1]

The market's perceptions of the credibility of reforms

8. Does the report draw appropriate inferences about the extent to which market participants perceive resolution reforms to be credible?

As the report mentions, information on resolution frameworks and practices is difficult to collect. Thus, any attempt to estimate whether and to what extent market participants perceive resolution reforms to be credible can also be affected by the degree of transparency of related rules. Furthermore, differences in resolution regimes across countries could drive changes in investment decisions, which might also be an indicator of how credible a resolution reform is. If there are strong movements out of a now bail-in-able position, this could be a sign that the reform is credible. Lewrick et al. (2019) find evidence for the credibility of bail-in due to an increase of the yields of senior bail-in bonds compared to similar bonds that are not bail-in-able. Yet, the bail-in premium declines with improved market conditions thus showing some pro-cyclicality, which banks could exploit. Generally, the lack of an investor register that tracks which institutions actually hold TLAC securities is problematic in this context, because trading behaviour of these agents could not only shed light on the credibility of reforms (and their heterogenous implementation), but could also be useful to assess which parts of the financial system are how exposed to bank instability risks.

A smaller comment is that the technical appendix (Section 3) contains different studies using different techniques and being based on different countries, which assess the credibility of reforms. To make results more comparable, it would be interesting to conduct similar analyses across countries. Otherwise, the report conducts a broad range of tests following the related literature, which contributes to giving a comprehensive overview of ongoing dynamics.

The report concludes that reforms have been effective given that funding cost advantages declined for SIBs. However, these advantages are still higher than before the global financial crisis. Hence, could it be that, due to bailouts during the crisis, bailout expectations have been

[1] https://srb.europa.eu/en/node/804

supported thus increasing the funding cost advantages and now we are back to the pre-crisis situation with still substantial TBTF expectations?

Banks' responses to reforms

9. Does the report accurately describe changes in the structure and behaviour of SIBs? Are the findings about the extent to which these changes can be attributed to TBTF reforms appropriate?

The report provides a clear and concise overview of how observable changes in (SI) bank behaviour correlate with regulatory changes. At the same time, the report carefully points to the limitations of the various analyses, which is good. Accordingly, we consider the careful attribution of TBTF regulation to bank observables adequate. The report shows that G-SIBs are required to hold a certain amount of total loss-absorbing capital (TLAC) and that they have already built up the 2019 transitional amount. Furthermore, banks have increased the quantity and the quality of their capital. These findings should imply that banks are well prepared to buffer potential losses, also during the COVID-19 pandemic. However, the described evolution of TLAC buffers also raises several questions.

- First, how could banks achieve the required amount of TLAC so quickly? Does it mean that the costs of obtaining the required amount of TLAC was relatively low for banks? If yes, could the regulator increase the amount of TLAC at low costs but with substantial benefits in case losses occur? The report shows additionally that G-SIBs have lower capital to assets ratios than other banks. We understand that this is related to the unweighted capital ratio, but still it seems a crucial point to understand why this is the case (also having potential shortcomings of risk-weighted capital requirements in mind) and what the implications for the effectiveness of TBTF reforms are.

- Second, to what extent is the ease to comply with TLAC requirements a consequence of sustained low interest rates that render the search for yield by institutional investors, such as insurances, pension funds, etc., more pressing? Were TLAC securities easy to place because institutional investors were, and still are presumably, very hard pressed to find asset classes offering at least some yield. To assess possibly resulting risks of systemic banking crises being rolled over to other, non-regulated parts of the financial system may be crucial, thereby calling even more for an investor register of TLAC securities issued by G-SIBs and, ideally also D-SIBs.

- Third, what is included in TLAC as well as regulatory capital items? Are the positions "usable capital" (Kleinnijenhuis et al. 2020)?

- Fourth, is the amount of TLAC for G-SIBs high enough to also buffer losses during a systemic crisis and can regulatory capital constraints be adjusted to free up some buffers? As the COVID-19 pandemic unfolds, there are first signs of increased insolvencies in the real sector and it should be questioned whether banks have not only raised capital buffers but also whether this increase was substantial enough to help them absorb these losses.

- Fifth, will such positions like TLAC be used to buffer losses considering that banks are even reluctant to cut dividends during the COVID-19 pandemic?

- Sixth, given that financial institutions hold a large share of TLAC in the euro area, does this span a new network in which contagion effects could occur? To avoid resolutions, financial institutions might strategically want to create such a network.

Broader effects of reforms

10. Does the report accurately describe changes in the structure and resilience of the global financial system and in financial integration? Does it draw the appropriate inferences about the extent to which these changes have been driven by TBTF reforms? Does the report accurately describe and estimate the social costs and benefits of TBTF reforms?

Regarding the part on financial integration, it would be helpful assessing in detail how GSIBs are connected across borders and how well potential resolution strategies could work for such complex multinational entities. Obtaining more data for a cross-country sample of banks on foreign subsidiaries <u>and</u> on cross-border claims thus seems highly needed to answer such questions and to provide the necessary input for resolution authorities ex ante.

The inference on social costs and benefits in the report are quite strong, taking a stance that TBTF reforms generated net benefits from a welfare perspective. Whereas this might very well be true, the presented and reviewed partial equilibrium analyses do not fully warrant such a strong conclusion. A bleak possibility that we cannot rule out is that systemic risks are just routed via TLAC security holdings out of the (supra-nationally) regulated realm of (G-)SIBs into either smaller banks supervised by national authorities or other participants in global financial systems that are less well monitored by regulatory agencies and market participants.

Another important insight from the report is that average market concentration in banking declined. However, market concentration might have little to say about the competitive pressure in an industry. In fact, some studies indicate that bank consolidation remained too low in banking due to political merger impediments that causally depress bank profitability (see Koetter et al., 2018). Given that more than half of TLAC assets are held within the financial

sector (see p. 27 of the report), many of which are either directly government-owned or subject to more indirect political suasion, e.g. due to holdings of domestic sovereign bonds[2], a more transparent reporting to the public about who is actually holding TLAC assets that should prevent bank failures would be needed. In the worst case, TLAC investors are already or become systemically relevant to their domestic governments, e.g. large insurances or pension funds, thereby just shifting the TBTF problem from banking to other sectors of the financial industry.

Additional considerations

11. Are there any other issues that should be considered, within the terms of reference?

To facilitate research on related topics also outside of the FSB's agenda, we would strongly encourage continuing efforts to construct a publically available database on resolution cases and conditions on the one hand and on TLAC security holdings on the other. Also providing information on specific terms that countries adopt with respect to the bail-in hierarchy of liabilities would be extremely useful information for research on the effectiveness of resolution schemes.

Regarding the COVID-19 pandemic, there are signs that capital regulation is loosened to help banks buffer potential losses. This loosening, however, occurs in a period in which new tools would have been still in the phase-in (TLAC) or have only been recently activated (Countercyclical capital buffer, e.g. in Germany). This observation shows the pressing need to be not too reluctant to implement such tools that should generate a buffer in good times. Additionally, this implies that as soon as the economy is on the recovery path, these tools should be tightened again despite potential lobbying against it.

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[2] See Cull et al. (2018) for an overview and Koetter and Popov (2020) for a recent example in German banking.

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