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LENDER OF LAST RESORT AND MORAL HAZARD

Abstract

In this paper we revisit the Lender of Last Resort (LOLR) function of the central bank and the associated moral hazard incentives. We argue that, from an economic perspective, the strict application of penalties to the operation of LOLR actions can make that instrument unworkable. Instead, we suggest that both penalties and publication should only be applied after such LOLR had been in place for a time. Normative frameworks ought to be adjusted in this regard.

JEL Classification: E5, E58, E59, G18

Keywords: Lender-of-last-resort, Illiquidity, Insolvency, Stigma

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Lender of Last Resort and Moral Hazard

Charles A.E. Goodhart and Rosa M. Lastra

Introduction

The lender of last resort role of the Central Bank remains a major rationale for central banks around the World in developed and developing countries. This function, whose theoretical foundations were laid down by Henry Thornton in 1802 and Walter Bagehot in 1873,[1] has evolved substantially in line with the evolving role of central banks and the profound changes in the composition and depth of financial markets.

However, at its core, the intellectual template developed in the XIXth century in the context of the London money market remains valid: "*The object is to stay calm and nothing therefore should be done to cause alarm. But the way to cause alarm is to refuse someone who has good security to offer. The news of this will spread in an instant through all the money market at a moment of terror.*"(*Walter Bagehot, Lombard Street , 1873)*

The key features of discretionary lending to illiquid, but not clearly insolvent, institutions on the basis of adequate collateral (the solvency rule and the collateral rule) remain essential to combat moral hazard. Flexibility and speed are essential in a LOLR operation. LOLR decisions are often made under pressure without complete information. But it is the immediacy of LOLR assistance – in contrast with the time frame of other instruments – that makes it particularly suitable as a first line of defence in a crisis.

That the central bank makes its readiness to lend freely clear in advance in the pursuit of financial stability was manifested yet again with the announcement on March 12, 2023 that the Federal Reserve System stood ready to provide emergency liquidity to all depository institutions that needed such assistance following the closure by FDIC of Silicon Valley Bank (SVB).[2] At stake in the failure of

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[1] See Henry Thornton, *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain* (Fairfield, NJ: AM Kelley, 1991, originally published in 1802) and Walter Bagehot, *Lombard Street. A Description of the Money Market* (New York: Wiley, 1999, originally published in 1873).

[2] Federal Reserve Board announces it will make available additional funding to eligible depository institutions to help assure banks have the ability to meet the needs of all their depositors at https://www.federalreserve.gov/newsevents/pressreleases/monetary20230312a.htm Released by the Board of Governors of the Federal Reserve System on March 12 at 6:15 pm. See also Joint Statement by

this mid-size bank were the classic arguments for having a lender of last resort. The fallout of SVB also evidences the dynamics between LOLR, resolution and deposit insurance. The US authorities allowed SBV to be closed while protecting all depositors (also uninsured depositors, invoking the systemic risk exemption) using resolution tools (a bridge bank) while offering emergency assistance to all depository institutions suffering from liquidity problems triggered by the contagion effects of the loss of confidence. A new facility was established under section 13(3) of the Federal Reserve Act– the Bank Term Funding Program - in addition to the traditional discount window lending under Section 10 of the Act. In the UK, the use of resolution tools by the Bank of England led to the sale of SVB UK subsidiary to HSBC for a nominal price of £1.

Two recent papers have usefully recorded and enumerated the manifold additional measures whereby central banks have extended their roles as 'Market Makers of Last Resort' (MMLR) and 'Lender of Last Resort' (LOLR) during the last two crises, the Great Financial Crisis (GFC) 2007/9, and the Covid/Ukraine crisis more recently. These papers are The Report of the Advisory Scientific Committee to the European Systemic Risk Board, No. 13, January 2023, on 'Stabilising financial markets: lending and market making as a last resort', by W. Buiter, S. Cecchetti, K. Dominguez and A.S. Serrano, and a Centre for Economic Policy Research paper, DP 17862, January 2023, 'Towards an Enhanced Lender of Last Resort and Market Maker of Last Resort', by W. Buiter. Much of these two papers involves a listing of such measures, e.g. Buiter, Section 3, pages 6-17, and Report, Section 2, pages 11-17.

The authors believe, and we agree, that such measures may well be used again in future crises. Thus, they argue, that now would be a good time to reassess them calmly and codify their form and conditions.

But the purpose of such measures was, however, and would be in future, to insure the financial system from disorderly instability. Like any other form of insurance, this carries with it the likelihood of some degree of 'moral hazard'. It is at this point that we question some of the proposals put forward in these two papers, but less so for their suggestions on MMLR than for LOLR. We do it from an economic perspective, rather than from an specific legislative approach. [3]

Treasury, Federal Reserve, and FDIC Released by the Board of Governors of the Federal Reserve System at https://www.federalreserve.gov/newsevents/pressreleases/monetary20230312b.htm

[3] There has been already a great deal of codification of LOLR post GFC and the UK, US and EU have adopted different LOLR norms. In this paper we do not discuss the specific normative that applies in each jurisdiction but rather suggest ways in which moral hazard may be minimized in future LOLR operations.

For MMLR, the choice of which domestic markets in which to intervene, and when to do so, will surely always remain with the central bank. This entails a continuation of the discretionary use of its LOLR authority (some authors refer to this as 'constructive ambiguity').[4] Moreover, there is an inbuilt clear measure and statistic that can tell onlookers whether the intervention was justified; this provides a considerable degree of ex post accountability. The need for intervention should only occur when disorderly, or contrived, conditions have led to prices in such key markets falling well below their fundamental values. If so, the intervention should be profitable. Indeed, both the need for, and justification of, such intervention can be relatively simply assessed by observing whether it made such profits. Two recent examples of MMLR are the intervention by the Bank of England to stabilise the gilt market in September 2022, and intervention by the Hong Kong Monetary Authority to fight off the speculative attack on the linked exchange rate and Hong Kong equity market in 1998, both of which made dramatically large profits very quickly. Any such MMLR intervention which failed to make profits should be put under close public examination. But we are much more concerned about the suggestions in these two papers for LOLR. We set out our concerns in the next section. Before doing so, it is worth recalling that LOLR comes in two forms: market wide liquidity assistance and individual (bilateral) liquidity assistance and that in both cases, the assistance must always be collateralised.

Problems for their proposed measures to limit moral hazard

When the authors of these two papers come to propose measures for dealing with moral hazard, they make a number of errors.

1) They misconstrue Bagehot. Both papers of full of the word 'penalty' when it comes to determining the rate that the central bank should pay on LOLR, particularly in Willem Buiter's paper. Though Bagehot never used the word 'penalty' in his book *Lombard Street,* his writings on the matter have been widely interpreted as LOLR meaning lending under a penalty rate.[5] The discrepancy between Bagehot's original text and the interpretation of the

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[4] Paul Tucker recalls, "Alan Meltzer a generation ago called for rules for the LOLR, as a mechanism to combine commitment with control of moral hazard (…) a regime of *constrained discretion*, where the constraints are widely agreed and public, and where the exercise of discretion can be observed by legislators and reviewed *ex post* to lend freely at a penalty rate and against good collateral." *See* Paul Tucker, "The Lender of Last Resort and Modern Central Banking: Principles and Reconstruction in Bank for International Settlements", Re-thinking The Lender of Last Resort, BIS Papers No 79, September 2014, https://www.bis.org/publ/bppdf/bispap79.pdf, p. 37.

[5] And this interpretation of the doctrinal principle has found its way into EU Law both in the Commission Communication of 13 October 2008 (Official Journal C 270, 25.10.2008) - which considers that ELA provision

penalty rate principle is, perhaps, particularly noticeable in the ESRB Report, where in the middle paragraph on page 26, it says simultaneously that 'Bagehot's original recommendation to lend at penalty rates is an established approach', but then two sentences below, actually puts in a correct statement that in a financial crisis 'Bagehot's prescription implies that the lending rate should be set below the one available in disorderly markets, but above the estimate of what would prevail in markets in normal times'. The question then immediately arises, what is normal? Thus the failure of a systemically important financial institution is liable to generate a panic and disorderly market, as was the case with Lehman Brothers. So, at what rate should the LOLR set, normal or disorderly? Again, the onset of a crisis is often quite easy to ascertain, but when does one assume that markets become normal again? After the onset of Covid, and the resultant rush to liquidity amidst the lockdowns, when was normal re-established? How would markets know when a central bank had shifted from assuming normality to assuming disorderly markets? If a central bank was to proclaim that markets had moved from normal to disorderly, would that be helpful or might it lead to a worsening of panic conditions?

2) Both papers make the assumption that it is possible to distinguish between illiquidity and insolvency. The difference between illiquidity and insolvency is often a matter of time. And, in the presence of reasonably well-functioning wholesale markets, illiquidity is typically a proxy for insolvency. The reason that a bank normally becomes illiquid is because it cannot borrow, or can only borrow at clearly much higher rates, thereby carrying stigma in wholesale markets; and the reason that it cannot borrow at going rates in wholesale markets is because its potential counterparties fear that it may be, or fairly shortly become, insolvent. There are, of course, exceptions to this rule, and Buiter doffs his cap to the Diamond/Dybvig (1983) paper, page 3, but illiquidity without concern for insolvency is the exception, not the rule. Indeed, the concept of insolvency is much less clear-cut than often assumed. A firm can be insolvent under any circumstances, whatever markets do, or likely to be insolvent if markets worsen, or possibly insolvent if markets remain the same, or

to an individual bank "*may be found not to constitute aid when a number of conditions are met, such as: the financial institution is solvent at the moment of the liquidity provision and the latter is not part of a larger aid package; the facility is fully secured by collateral to which haircuts are applied, in function of its quality and market value; the central bank charges a penal interest rate to the beneficiary; the measure is taken at the central bank's own initiative, and in particular is not backed by any counter-guarantee of the State*" - and in the ECB ELA Agreement of 2021 which also refers to the 'penalty rate' in principle 7.1: "National Central Banks (NCBs) charge a penalty interest rate to the institution receiving ELA." See https://www.ecb.europa.eu/pub/pdf/other/ecb.agreementemergencyliquidityassistance202012~ba7c45c170.en.pdf?dca797da3212289956ac24df607eb168

maybe insolvent unless the firm changes policies or has good luck. We will never ever really know whether Lehman Bros could have recovered and remained solvent, had the Fed lent to it in September 2008. Because of this lack of clarity about the concept of insolvency (as well as the need to minimise losses to the taxpayers by acting early), the FSB Key Attributes of Effective Resolution Regimes for Financial Institutions talk about indicators of non-viability (principle 3.1) while under EU law, the BRRD and the Single Resolution Mechanism Regulation talk about Failing or Likely To Fail (FOLTF) criteria as trigger points for resolution procedures. FOLTF includes situations of traditional 'insolvency' (liabilities more than assets) and situations of 'illiquidity' and others such as the failure to meet requirements for continuous authorisation.[6] Almost as a matter of course, any central bank should be prudent to assume that any bank approaching it for LOLR assistance is subject to, at least background, concerns about its ultimate solvency. This is true both in a generalized banking crisis and in cases of an individual bank crisis in a sound economy. If a bank cannot obtain liquidity in normal market conditions, it is because counterparties are concerned about excessive risk, mismanagement and/or other developing problems which would typically make exposures to that bank imprudent. Once banks exhaust their ability to obtain liquidity in the market, they come to the central bank.

3) In part as a consequence of point 2 above, any bank or financial institution, which has to go to the central bank for liquidity assistance, is, by the same token, subject to concern about its viability (a new term of art under the Key Attributes). If the central bank is the lender of LAST resort, than that implies that no one else will lend to it. If that then becomes public knowledge, it widens the range of those concerned with its continuing viability from a possibly small group of insiders to a wider range of retail depositors. Think what happened in the case of Northern Rock! The perception that 'only the desperate' go to the central

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[6] Principle 3.1 of the FSB Key Attributes states: "Resolution should be initiated when a firm is no longer viable or likely to be no longer viable, and has no reasonable prospect of becoming so". Under EU Law - Article 18.4 SRMR and Article 32(4) BRRD - the FOLTF concept (equivalent to point of non-viability or PONV) includes situations of traditional 'insolvency' (liabilities more than assets), situations of 'illiquidity' (inability to meet payments as they fall due) and others such as the failure to meet requirements for continuous authorisation. This is clear from. The ECB's website states: 'There are four reasons why a bank can be declared failing or likely to fail (FOLTF): (1) it no longer fulfils the requirements for authorisation by the supervisor; (2) it has more liabilities than assets; (3) it is unable to pay its debts as they fall due; (4) it requires extraordinary financial public support. <u>A the time of declaring a bank as failing or likely to fail, one of the above conditions must be met or be likely to be met</u>' (See ECB, "What does it mean when a bank is failing or likely to fail?", at https://www.bankingsupervision.europa.eu/about/ssmexplained/html/banks_failing.en.html) The criteria are not cumulative. It is enough to meet just one criterion to be considered FOLTF by the ECB. Furthermore, the 'likely' element adds an element of discretion to the determination of FOLTF. It is not just 'failing' that is included in the determination, but also 'likely to fail'.

bank signalled weakness. Instead of acting as a mechanism to maintain or restore credibility, news about a LOLR operation became destabilizing.[7] As a result of such concern about stigma, the possibility that LOLR will become public will mean that banks will only go to the central bank for such assistance at the last possible moment; whereas it might be easier and simpler for the central bank to stave off a crisis if it was called in with no publicity to assist at a much earlier stage, before virtually all else was lost.[8] The ESRB Report makes no mention of transparency to access to LOLR and Buiter dismisses it, e.g. on page 23. Here he writes, 'Greater openness about the financial circumstances of the LOLR counterparties would also help. Any residual stigma the counterparties will have to live with. This is not a first-order issue. It certainly is not a sufficient reason for keeping LOLR operations secret, even temporarily.' In our view, the historical experience of recent decades makes this judgement questionable. Stigma is a first-order issue, and the immediate publication of LOLR assistance made banks unwilling to come for such support until the last possible moment, when it was probably already too late.

So, what do we suggest instead?

Our Proposal

We do agree with the authors of these papers that the range of eligible collateral should be extended (as indeed it was during the GFC and its aftermath), and that banks and other key financial intermediaries be required to pre-position a significant proportion of their high-quality assets with the central bank, as suggested, for example, in Chapter 7 of Mervyn King's book, *The End of Alchemy*. The ultimate principle of collateralised lending must always be applied: no collateral, no lending. Haircuts should be established, in order to protect the central bank against loss. The problem is how to avoid stigma, which we do see as a serious problem, while at the same time neither taking over the role of the interbank and other wholesale markets, nor worsening moral hazard. In response to the stigma problem, central banks preferred to rely upon broad-based eligibility mechanisms or market-wide facilities instead of bilateral lending assistance (BIS Papers no. 79, p.4). When acting as a discussant, in response to Cecchetti's presentation of the ESRB paper,

[7] The stigma associated with central bank bilateral lending worsened significantly during the global financial crisis. *See* BIS Papers No. 79, "Re-thinking the lender of last resort", September 2014, p. 4: "Stigma was a major impediment to discount window borrowing during the crisis and limited central banks' ability to provide emergency liquidity effectively. Market-wide facilities that were used on a regular basis were seen as one way of reducing stigma. Some participants expressed concern that new disclosure requirements might add to stigma. For LOLR measures to be effective, central banks needed to maintain the ability for covert lending."

Darrell Duffie stated 'It is too late to worry about moral hazard in the middle of a crisis. The time to worry about moral hazard is in peace time.' [9]

Our answer to the problem would be to make the rate on borrowing via these prepositioned eligible assets to be a relatively small amount above the relevant interbank rate for the average bank in that particular category, except in crises when the rate could be lower than the interbank market, particularly if that was seized up. What we would suggest is that the rate charged should be a positive function of the length of time for which the borrower needs before full repayment. If there really was an example of illiquidity without any concern about solvency, it would seem unlikely that the borrower would not find itself in a position to repay within a month, 20 working days. So our suggestion would be that any borrowing repaid within that interval should be an iota above the going rate in the interbank market, and should NOT be made public. After one month, we would suggest that the rate on the borrowing should rise, by perhaps one percent, and, perhaps, after one or two months, such borrowing should be made public. That elapse of time should give both the borrower and the central bank a window of opportunity to see what could be put right and corrected and also give the central bank fair warning about what might happen if the liquidity problem cannot be resolved in time. The length of time before the move towards charging higher rates and making the borrowing public that should be applied would need to be carefully considered. Four weeks may either be too short or too long. Others are likely to be better placed to determine the appropriate length.

Another possible mechanism, which reflects Duffie's suggested approach,[10] could be to make the subsequent required level of liquid assets or capital a positive function of the period for which a bank borrowed from the LOLR. Thus, if a bank had to borrow from the LOLR for any sustained period of time, it would subsequently be required to hold more liquid assets or capital, at least for some period of years.

[9] SAFE-CEPR Policy Web Seminar of 21 February 2023, "Stabilizing Financial Markets: Lending and Market Making as a Last Resort" at https://cepr.org/multimedia/safe-cepr-efa-rpn-stabilizing-financial-markets-lending-and-market-making-last-resort

[10] Ibid.

So, if the issue is simply illiquidity, without any taint of insolvency, we would advocate offering relatively short-term assistance without either penalty or publicity. If the problem is deeper and relates to concerns about insolvency, as is usually the case, we would like to suggest offering the borrowing bank involved a grace period to turn its business around and repay its LOLR debt.

Some may feel that such a grace period, before the penalties of both higher rates and publicity kick in, would not be sufficient to avert moral hazard. We rather doubt that, but if such moral hazard is thought to be such a bugbear, then we would suggest the right way to go would be to impose extra penalties on those who had made the decisions that drove the borrower into insolvency. The main cause of moral hazard in the private sector, particularly in financial firms, is the limited liability of the executives and directors of those same firms. Particularly with the highly disadvantageous move towards paying such directors and executives in share bonuses, our capitalist system is now geared towards trying to raise equity prices in the short term, with much less concern about the risk of failure. For some reason, which we do not understand, this has been largely forgotten. The Victorians understood this and for quite a long period in the middle of the 19th century sought to maintain banks as having unlimited liability. It was the collapse of the City of Glasgow Bank, with its effect on innocent equity holding retail bystanders that changed all that. We have already argued that moral hazard and short-termism should be restrained by bringing back multiple, even possibly unlimited, liability for those responsible for making decisions, in our paper, 'Equity Finance: Matching Liability to Power', *Journal of Financial Regulation* (2020).

We are not soft on moral hazard. We just think that trying to deal with it by making LOLR subject both to immediate publicity and/or penalty, would, in effect, make that instrument unworkable.

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