HOW CAN CENTRAL BANKS DELIVER CREDIBLE COMMITMENT AND BE "EMERGENCY INSTITUTIONS"?

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Central banks perform two apparently quite different functions. On the one hand, they are expected to operate monetary policy in a *systematic* manner in order to smooth fluctuations in economic activity without jeopardizing the economy's nominal anchor. On the other hand, in their role as the lender of last resort, they are expected to operate with the *flexibility* of the economy's equivalent of the US cavalry[1].

Both those propositions invite dissent and are unquestionably contested. On monetary policy, there are those, perhaps not here in Stanford, who will want to shout that monetary policy cannot be tied to rules but must be free to meet circumstances that are hard to fathom in advance. On lender-of-last-resort (LOLR) policy, meanwhile, there are those who stress with no less vehemence that a more rule-like regime is needed in order to keep central banks from straying too far into fiscal territory: liquidity support should be distinct from a solvency bailout. Nevertheless, I suggest that the dominant views are as I initially expressed them, and not without reason.

Society gives the monetary reins to unelected technocrats in order to mitigate problems of credible commitment. A necessary precondition for delivering on that promise is that policy be systematic. Big picture, this is an institution designed for normal circumstances. Having, separately, allowed fractional-reserve banking, society also wants the monetary authority to provide liquidity re-insurance to banks in order to protect it from the social costs consequent upon the private banking

[1] My thanks for exchanges on various of the issues covered here to Alberto Alesina, Eric Beerbohm, Steve Cecchetti, Anil Kashyap, Athanasios Orphanides, Philip Pettit, Jeremy Stein, Adrian Vermeule and Luigi Zingales.

system's liquidity-insurance services being abruptly withdrawn. That, by contrast with regular monetary policy, is an institution for economic and financial emergencies.

If a central bank succeeds in building a reputation for operating a systematic monetary policy, is that reputation jeopardized when it reveals its normally hidden innovative side during a crisis? Conversely, might a reputation for rule-like behaviour in normal times sap confidence in its ability to ride to the rescue in a crisis? In other words, do central banks need to sustain a rich, multi-purpose reputation that faces in two directions?

That is the subject of these remarks. Note that my title is not "*Can* central banks deliver credible commitment and be 'emergency institutions'?" It is "*How* can central banks [do so]?" In other words, I am positing that there is no choice other than to house these two functions, two missions in a single institution and, further, one that is highly insulated from day-to-day politics: an independent central bank.

It is striking, therefore, that debates about the design of monetary-policy regimes and, when they have occurred at all, debates about the LOLR's role in crisis management have largely existed in parallel universes. The silos might be comfortable, but they hardly help society design and oversee the central banks into which they have placed so much trust.

Signs of this are apparent in current debates about the Federal Reserve and its advanced-economy peers. The "Audit the Fed" and "Taylor Rule" Bills in Congress are framed as being about monetary policy, which of course they are. Quite separately, Dodd Frank materially changed the scope and autonomy of the Fed as a lender of last resort, and fresh proposals have recently been launched in the Senate. My point here is not on the merits or demerits of those or any other substantive provisions, nor is it that all reforms should come via a single piece of jumbo-legislation. Rather, the point is that we might do better to think about central bank functions in the round, in terms of one joined-up regime for preserving *monetary stability broadly defined*.

If that is right, we need to step back a bit to think more carefully about what we are dealing with here. As I attempt to do so, we shall bump into some fairly deep questions about the distribution of power in democracies. We will also see the monetary policy/LOLR dichotomy dissolve, but only for it to be replaced by a deeper challenge for the design of robust, legitimate central banks: how to proceed when the fiscal constitution is not pinned down.

What do central banks do? Delegated managers of the consolidated state balance sheet

One way into this is to think of the central bank as conducting financial operations that change the liability structure and, potentially, the asset structure of the consolidated balance sheet of the state. If they buy (or lend against) only government paper, the consolidated balance sheet's liability structure is altered. If they purchase or lend against private-sector paper, the state's balance sheet is enlarged, its asset portfolio changed, and its risk exposures affected. Net losses flow to the central treasury in the form of reduced seigniorage income, entailing either higher taxes or lower spending in the longer run (and conversely for net profits).

The state's risks, taken in the round, might not necessarily increase with such operations. If purchasing private sector assets helped to revive spending in the economy that might, in principle, reduce the probability of the state paying out larger aggregate welfare benefits and receiving lower taxes later. But the form of the risk would change and, because the driver was central bank operations, the decision taker on the state's exposures would switch from elected fiscal policymakers to unelected central bankers.

Seen in that light, the question is what *degrees of freedom* central banks should be granted, and to what ends, to change the state's balance sheet.

A minimalist conception, advanced by Marvin Goodfriend amongst others, would restrict the proper scope of central bank interventions to open market operations that exchange monetary liabilities for short-term Treasury Bills (in order to steer the overnight money-market rate of interest). On this model, the LOLR function is conceived of as being to accommodate shocks to the aggregate demand for base money, and plays no role in offsetting temporary problems in the distribution of reserves amongst banks.

Arguably, this would get close to abolishing the LOLR function as traditionally executed. As a Governor of the Bank Of England said of the 1820s' crisis, when the function was first emerging, "we lent in modes that we had never adopted before, ….by every possible means consistent with the safety of the Bank"[2].

Perhaps more profoundly, at the zero lower bound the only instrument available to the central bank would be to talk down expectations of the future path of the policy rate ('forward guidance'). All other interventions to stimulate aggregate demand --- for example, quantitative and credit easing --- would fall to the 'fiscal arm' of government. And that, not a judgment on the merits of the minimal conception, is my point: what is not within the realm of the central bank falls to elected policy-makers, with the attendant problems of credible commitment and time-inconsistency.

At the other, *maximalist* end of the spectrum, the central bank would be given free rein to manage the consolidated balance sheet, even including writing state-contingent options with different groups of households and firms. That would get very close to *being* the fiscal authority, and cannot be squared with any mainstream ideas of central banking competencies in democracies.

So in one direction, the state's overall capabilities shrivel, and in the other its functions are effectively seized by unelected central bankers.

We could try to resolve the question of boundaries through positive economics on the effectiveness of different instruments in responding to the shocks hitting a monetary economy. While that work is obviously essential, it is not the approach I take here because answers are likely to be hedged about with uncertainty; but, more fundamentally, because that approach does not speak to which arm of the

[2] Quoted in D Kynaston, "The City of London", chapter 4, one volume edition, 2011.

state should be delegated which tools. The problem appears to be that we don't know where the welfare advantages of credible commitment are outweighed by the disadvantages of the loss of majoritarian control, because that looks like a trade-off between incommensurable values.

I am going to approach the question of boundaries, therefore, by asking first what purposes a central bank serves and then what constraints are appropriate for independent agencies to have legitimacy in a democratic republic. As we proceed, the tension between commitment technologies and majoritarian legitimacy will resolve itself.

A money-credit constitution

Central banks are the fulcrum of the monetary system; the pivot, as Francis Baring put it two centuries ago when coining the term 'dernier resort'.

It is usual to think of their independence as being warranted by a problem of credible commitment. That is a necessary condition, but it is not a sufficient condition once wider issues than economic welfare are weighed, such as the loss of democratic control. The imperative of central bank independence is, I think, political, almost constitutional.

In order to maintain the separation of powers between the executive government and the legislature, the fiscal tool of the inflation tax cannot lie in the hands of an executive striving to stay in power. Otherwise it could avoid, or at least delay, requesting 'supply' from the assembly by inflating away the burden of any outstanding state debt or, more generally, by printing money to finance its needs and increase seigniorage income. That society chooses to delegate to an agency rather than rely on tying itself to a commodity standard to meet this problem is, I believe, down to modern full-franchise democracies being unprepared to live with the volatility in jobs and output associated with the 19th century gold standard.

On this view, in a fiat money system the independence of the monetary authority is a corollary of the higher-order, constitutional separation of powers. For the delegation actually to deliver credible commitment, the reputation of the central bank and its policymakers must be strapped to their success in maintaining price stability. That is one reason transparency is so important.

The set-up unavoidably becomes richer, however, once we acknowledge that society has chosen, rightly or wrongly, to allow fractional-reserve banking, which brings the social benefits of liquidity-insurance for households and firms bundled-up together with the risks from its inherent fragility and the social costs of systemic crises.

The LOLR function is called into existence to reduce both the probability and impact of those risks crystallizing. That takes the central bank to the scene of almost any meaningful socially costly financial disaster, whether sourced in economic problems or operational malfunction, as when the Fed lent hugely to the Bank of New York to keep the payments system going in the mid-1980s. In consequence, central banks have a keen interest in the adequacy of regulatory and supervisory regimes, in order to contain the moral hazard costs entailed.

In other words, once private banking (in the economic sense) is permitted, central banks cannot avoid being *de facto* multiple-mission agencies intimately interested and involved in the functioning of the credit system since most of the economy's money is the credit-money created by the banking system (broad rather than narrow money). As Paul Volcker said with tragic foresight in his 1989 valedictory Per Jacobsson lecture,

> *"I insist that neither monetary policy nor the financial system will be well served if a central bank loses interest in, or influence over, the financial system[3]."*

Since unelected power needs framing carefully in democracies, the *de facto* position I have outlined should be recognized *de jure*.

[3] Paul Volcker, "The Triumph of Central Banking?" Per Jacobsson Lecture, 1989. The question-mark in the title was underlined during the Q&A.

If that sounds ridiculously banal, remember that the Federal Reserve does not have an overall statutory objective to help preserve the stability of the financial system but only objectives tied to specific powers: for example, safety and soundness for the generality of banks and, since Dodd Frank, stability for its powers over 'systemically important financial institutions'. In the UK, only since 2012 has the Bank of England had macro-prudential and micro-regulatory functions framed in terms of an objective of stability.

The world I am describing requires not a 'monetary constitution' of the kind advocated by James Buchanan but a *money-credit constitution*. By that I mean rules of the game for both banking and central banking designed to ensure broad monetary stability, understood as having two components: stability in the value of central bank money in terms of goods and services; and also stability of private-banking-system deposit money in terms of central bank money.

The idea would have been familiar to our 19th century predecessors. Their money-credit constitution comprised: the gold standard plus a reserves requirement for private banks (an indirect claim on the central bank's gold pool) plus the lender-of-last-resort function celebrated by Bagehot. That package was deficient in so far as it did not cater explicitly for solvency- as opposed to liquidity-crises. Worse, as our economies moved to embrace fiat money during the 20th century, policymakers fatally relaxed the connection between the nominal anchor and the binding constraint on bank balance sheets --- to the point where, on the eve of the 2007 crisis, they were over-levered and horribly illiquid.

At a schematic level, a money-credit constitution for today might have five components: inflation targeting plus a reserves requirement that increased with a bank's leverage plus a liquidity-reinsurance regime plus a resolution regime for bankrupt banks plus constraints on how the central bank is free to pursue its mandate.

Compared with the 19th century, all five components of that schema would need fleshing out. Much of the past quarter century has been spent on the first --- the nominal anchor --- and even that work turns out to be incomplete. But other parts of the money-credit constitution are even more difficult to design. We have learned that regulatory arbitrage is endemic in finance, so that any regime for the economic activity of banking would need to cover ‘shadow banks’ not only *de jure* banks, and it would need to be richer and more adaptable than could be delivered solely by a leverage-driven reserves requirement. Nevertheless, that simple conception serves as a useful benchmark, and a reminder that constraints on and supervision of banking soundness are integral to an economy’s money-credit constitution.

To pursue the regulation of banking would be too big a detour from the parts of the money-credit constitution that most concern me here: what central banks must do (their mandate), may do and the constraints on them.

Some of the necessary constraints on central banks are implicit in my earlier derivation of their independence from constitutional principles. Most obviously, rather than simply making the definitional statement that any independent agency must be in control of its instruments, it is specifically important that an independent central bank should be barred from lending to government on the government’s direction. (Only the legislature should be able to sanction such lending, and through regular legislation, as with any tax.)

That provides one, vitally important element of an answer to our question of where the line should be drawn around the capacity of the central bank to reshape the state’s consolidated balance sheet. The outline of other components of the answer emerge from considering the legitimacy of central banks as very powerful, unelected institutions.

Constraints and Principles for independent agencies

My broad answer to the general question of conditions for the legitimacy of independent agencies in a democratic, liberal republic comes in three parts.

First, a policy function should not be delegated to an independent agency unless: society has settled preferences; the objective is capable of being framed in a reasonably clear way; delegation would materially mitigate a problem of credible commitment; and the policymaker would not have to make first-order distributional *choices*. Whether those conditions are satisfied in any particular field is properly a matter for public debate and for determination by elected legislators.

Second, the way the delegation is framed should meet five design precepts: (1) the agency's purposes, objectives and powers should be set clearly by legislators; (2) its decision-making procedures should be set largely by legislators; (3) the agency itself, in this case the central bank, should publish the Operating Principles that will guide its exercise of discretion within the delegated domain; (4) there should be transparency sufficient to permit accountability for the central bank's stewardship of the regime and, separately, for politicians' framing of the regime; and, crucially for the problem I posed, (5) it should be clear *ex ante* what (if anything) happens, procedurally and/or substantively, when the edges of the regime are reached but the central bank could do more to avert or contain a crisis.

Third, multiple missions should be delegated to a single agency only if: they are inextricably linked, and in particular rely on seamless flows of information; and decisions are taken by separate policy committees, with overlapping membership but each with a majority of dedicated members.

With the exception of the emergency-powers precept, I shall not defend those *Principles for Delegation* here[4]. They might seem innocuous. But, in fact, they pack a punch. For example, few --- too few --- independent agencies have clear objectives, so that high-policy (decisions on values) is effectively delegated. My immediate purpose, however, is to draw out some of the implications for multiple-mission central banks.

For monetary regimes, some of the package is, of course, familiar. Most obviously, the *Principles* support instrument-independence rather than goal-independence (a

[4] A preliminary explanation was given in Tucker, "Independent Agencies in Democracies: Legitimacy and Boundaries for the New Central Banks" the 2014 Gordon Lecture, Harvard Kennedy School, 1 May 2014. A fuller explication is forthcoming. Various of the principles draw on the work of Alesina and Tabellini on whether to delegate to technocrats, of Milgrom and Holmstrom on the incentive problems of multiple-mission agents, and of Pettit on forging the people's purposes and on contestability. Amongat other things, the multiple-policy committee structure is incorporated in the Bank of England's post-crisis architecture.

test not met everywhere), and also the importance of not making monetary policy decisions in order to pursue some distributional goal (as opposed to policy having distributional effects broadly foreseen by legislators). The apparent incommensurability between majoritarian control and commitment technologies turns out to be no more than a spectre. Democracy comes first, and can choose commitment technologies for improving aggregate welfare if it wishes. Democratic legitimacy requires that the people's representatives determine whether the country should be tied to the mast of stability, what that mast looks like (the standards in the money-credit constitution), and that distributional *choices* are not handed over since the winners and, more important, the losers would not have representatives at the central bankers' policy table. The outlines of some constraints on central banks are starting to emerge.

Going further, three of the requirements for legitimate delegation help to open up, and perhaps dissolve, the distinctions and potential tensions between the monetary policy regime and the LOLR function that seemed, at first sight, so problematic. They are the first, third and fifth design precepts requiring, respectively, the central bank's powers and objectives to be set by legislators; the central bank to state the Operating Principles that guide its exercise of discretion; and the need for *ex ante* clarity around what happens when a central bank reaches the boundaries of a domain it has been delegated.

The need for regimes

At root, the *Principles* require delegated responsibilities and powers to be framed as *regimes*. While that is familiar in the field of monetary policy, it is not so obvious that LOLR (or other central bank) functions have been laid down so carefully and clearly over the past century or more.

Operating Principles for monetary policy: the 'Taylor Rule' debate

Even within monetary policy (narrowly understood), there remain outstanding design questions. One of them preoccupies this country's legislature right now: whether to mandate *in legislation* a benchmark rule for the central bank's routine policy instrument, the short-term interest rate.

Rather than offering a firm view on whether or not the 'Taylor Rule' should be adopted by the Fed, I shall limit myself to observing that the debate can be thought of as being about how to implement the design precept that an independent agency should enunciate Operating Principles. For myself, that that be done by the agency is more important than that any particular set of principles or any particular instrument-rule be entrenched in a law that is justiciable via the courts.

In other words the *Principles for Delegation* require that more be said than has, perhaps, been said about the constraints in 'constrained discretion'. Whether that should be pursued by moving to a lexicographic objective or by *ex post* publishing research on the 'rule' best approximating past policy or by also publishing explanations of deviations from past patterns raises a rich set of issues that is being debated afresh. I will not go into it here, other than to say that, in order to avoid undue concentrations of power, we should prefer solutions that strengthen the role of individual committee members to those that would embed a single view. In that sense, there might be a trade-off between the clarity with which the reaction function is articulated and the degree to which power is dispersed.

Defining a LOLR regime

If debates about monetary regimes continue, rather more is needed in many jurisdictions to articulate and explain a regime for the LOLR liquidity reinsurance function[5]. Prerequisites for any such regime are that its terms should mitigate the inherent problems of adverse selection and moral hazard; be time-consistent; and provide clarity about the amount and nature of 'fiscal risk' that the central bank is permitted to take on the state's behalf.

[5] What follows is expanded upon in Tucker, "The Lender of Last Resort and Modern Central Banking: Principles and Reconstruction", *Rethinking the Lender of Last Resort*, BIS Paper No 79, Bank for International Settlements, September 2014.

Compared with things prior to the 2007 phase of the crisis, some questions seem to be settled; for example, nearly all central banks now accept and have announced publicly, without legislative override, that they stand ready to lend against a wide range of collateral, including portfolios of illiquid loans to households and firms. I think it is also now conventional wisdom, as it should be, that excess collateral should be taken to leave the central bank's expected loss no greater than if it had bought Treasury Bills, as under the minimal conception.

Other questions remain outstanding in many jurisdictions; for example, whether there are any circumstances in which the central bank should be permitted and, if so authorized, would be prepared to lend to non-banks or to act as a market-maker of last resort. Any reflection on those issues reveals the difficulty of making credible claims that the authorities will *never* undertake such operations. If that is correct, it would be as well to concentrate on designing a regime for them to do so under appropriate constraints.

Of those, surely the most important is that the central bank, a body of unelected officials, should not knowingly lend to a firm that is irretrievably and fundamentally insolvent. If 'no monetary financing' is the golden rule for a credible nominal anchor, so 'no lending to irretrievably insolvent borrowers' should be the golden rule for the *liquidity* reinsurer. That 'liquidity support' has become, for many people, synonymous with 'solvency bailout' is a tragedy of the first order that saps away the legitimacy of central banks.

How a central bank lender makes those assessments of solvency, and how it values collateral, should be publicly understood in broad terms *ex ante* and, with appropriate lags, be capable of being assessed *ex post*.

This is not simply about estimating the solvency position of a potential borrower at the moment before any liquidity is provided. If the market is in the grip of a liquidity panic, affecting an individual firm(s) or the system as a whole, the provision of liquidity might dispel the panic and restore the firm's solvency position. Faced with a problem of multiple equilibria, LOLR interventions might be able to get the economy and the distressed firm(s) back onto a healthy path. If, however, the firm is fundamentally bust (has a net assets deficiency) whatever the (realistic) economic outlook, then no amount of central bank lending can provide a cure.

None of that is to say that decisions that are decent *ex ante* would always generate good or satisfactory outturns *ex post*. This is essentially about forecasting: forecasting the effect of unusual liquidity provision on the path of the economy and asset prices, and its effects on confidence in the firms in question. Making those forecasts is hard. As with any forecasts, there would be errors, although they should be broadly symmetric over the long run. Since this is, unavoidably, what is going on, it would be better to be clear about it, and for central banks to explain how they make such forecast judgments.

That is part of what would need to be covered in a central bank's LOLR Operating Principles. Then the nature and potential effects of LOLR liquidity reinsurance would be better understood in general, and particular decisions to lend (or not to lend) could be evaluated *ex post*.

The legislators' role, meanwhile, would be to set or bless the level of confidence on solvency necessary for liquidity support to be permitted; and to provide a statutory resolution regime for handling irretrievably bankrupt banks so as to make "no" from the LOLR credible[6].

It is not obvious to me that many, or perhaps any, of those issues featured in the debates that led to the reform of the Fed's liquidity reinsurance functions. In particular, while appeals are made to the importance of central banks not lending to fundamentally insolvent firms, what that means is rarely spelt out and might not be widely understood.

Regimes have boundaries

What I hope that brief discussion makes clear is that, like monetary policy, the LOLR liquidity-reinsurance function could, and should, be framed as a regime.

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[6] See Tucker, "The Resolution of Financial Institutions without Taxpayer Solvency Support: Seven Retrospective Clarifications and Elaborations", European Summer Symposium in Economic Theory, Gerzensee, Switzerland, 3 July 2014.

And as with any regime, it would need to have reasonably well-defined boundaries.

That being so, we have dissolved part of the dichotomy I set up at the outset between systematic monetary-policy regimes and an inherently flexible LOLR function. Like monetary policy, LOLR liquidity reinsurance is capable of being systematic. Admittedly, compared to monetary policy where policy is reset roughly monthly in most jurisdictions, it is much harder for observers to tell whether the central bank is sticking to a systematic LOLR policy because it gets activated relatively rarely. But that does not negate the point that the regime should have edges, that the central bank's discretion should not be unlimited or absolute.

Which, of course, poses the big question of what happens --- or, normatively, what *should* happen --- when the edges of any of these regimes --- monetary, LOLR or, indeed a field I am not covering here, macro-prudential --- are reached but there is more that the central bank could, in principle, do to shift the shape and size of the state's consolidated balance sheet in ways that would avert or contain a crisis.

What, in other words, is the proper role of unelected central bankers in the exercise of 'emergency powers' and is it realistic that central banks can credibly commit to staying within their 'proper role', however it is framed? The issues are real: what role should central banks play in decisions about whether to bail out, for example, Lehman, AIG, etc without specific Congressional sanction? They are, moreover, deep. I have encountered a wide range of views on them in this country.

Beyond the boundaries: emergency powers and 'emergency institutions'

Outside the normal purview of economic researchers and policymakers there is an active and contested debate amongst political theorists and constitutional scholars about the nature, acceptability and even inevitability of 'emergency powers' exercised by the executive branch of government when a nation is faced with an existential crisis. At one end of the spectrum are followers of the early-20th century

German writer Carl Schmitt, who maintained that ‘exceptions’ from normal governance are both inevitable and acceptable. On this view, in a crisis constitutional conventions and democratic norms give way to what the executive feels it must do, revealing the true but usually hidden nature of the polity. If economists wonder what this has to do with us --- that surely it’s to do with national security, war and terrorism, but not our field --- think again. In the years immediately following the 2007-09 stage of the global financial crisis, Chicago and Harvard constitutional scholars Eric Posner and Adrian Vermeule argued that many of the measures taken by the US Treasury and the Fed fell fair and square within a conception of exceptional executive power[7].

One elegant response to this line of thinking, articulated by political theorist Nomi Lazar, is that the posited distinction between the ‘exceptional’ and the ‘normal’ is an illusion[8]. First, some crises persist for years, becoming a more or less normal state of affairs. And small crises occur regularly but, nevertheless, sometimes require extraordinary measures: within finance, think of the S&L crisis in the US, the HIH insurance crisis in Australia, or the 1970s’ Secondary Banking Crisis and the early-1990s’ small-banks crisis in the UK.

Further, and profoundly, whether or not one accepts the category of ‘exceptional’ circumstances in which constitutional conventions and rights get more or less junked, democratic accountability does not get thrown out of the window so long as the executive faces the prospect of future elections.

That seems to me to be correct and, more practically, to give us some pointers towards the construction of robust regimes.

First, contingency planning should be embedded in central-banking regimes as far as possible. We should not deny that crises can occur and that they will meet with, amongst other things, extraordinary liquidity-reinsurance actions, unless tightly binding our hands truly would crush, and I mean crush, the probability of their occurring. Given the ubiquity of regulatory arbitrage in a shape-shifting financial industry, that is hard.

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[7] Posner E and A Vermeule, *The Executive Unbound: After the Madison Republic*, 2010.
[8] Nomi Lazar, *States of Emergency in Liberal Democracies*, 2009.

Second, since it is inevitable that any state-contingent contract given to the central bank will eventually prove incomplete, it is necessary to state clearly upfront what happens then. For example, if the basic LOLR regime does not include liquidity reinsurance to 'shadow banks', should there be provision for that effective ban to be lifted in an emergency. If so, who should decide? The need to answer questions like that is precisely the message of the fifth design precept set out earlier.

But what does it mean? The most important point is that, as a body led by unelected policymakers, the central bank should not *itself* determine where it could reasonably venture beyond previous understandings of its boundaries. That should be sanctioned (or not) by elected representatives of the people, because they will be directly accountable.

Thus, I object less than some to the provision of the Dodd Frank reforms that requires the Fed to get the permission of the Treasury Secretary (after consulting the President) to conduct certain liquidity-support operations[9]. In broad equivalence, where the Bank of England wishes to go beyond its published framework for providing liquidity support, it must obtain the permission of the Chancellor of the Exchequer. (That provides a healthy incentive for the published framework to be as complete as possible, while recognizing that at best it will only ever cater for the kinds of crisis they have either experienced, witnessed or imagined.)

Emergencies in macroeconomic demand management: credit policy

We have seen that the LOLR function can be framed as a regime but that, since its very purpose is to contain crises, it should be clear what happens in 'emergencies', defined as what lies beyond the regime's normal perimeter. Although, by contrast,

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[9] The oddity is that the formal consent comes from the Treasury Secretary, who is no more elected than the Fed's Governors. The democratic benediction comes from the mandatory consultation of the President. I assume that this cumbersome construction is adopted because of the convention that the President cannot be made accountable to Congress other than via impeachment.

monetary-policy regimes are framed mainly for routine use, it is no less true that their boundaries can be reached too.

Thus, questions confronted by central bankers during recent years included: can we and should we conduct QE against government bonds; can we, should we buy private-sector instruments to stimulate demand by acting directly on credit premia?

Those questions received different answers in different jurisdictions, in most cases due to constraints in pre-existing laws that had not received much prior 'compare and contrast' analysis amongst central bankers themselves, researchers or political commentators. In Japan the answer was: yes, yes. In the UK: yes, broadly no[10]. US: yes, and sort of no. Euro area: yes (after extensive debate), and we don't yet know.

Why did I say 'sort of no' to whether the Fed could or should buy private sector paper? Legally, the answer was and remains unambiguous: it may not. But *economically* the population of instruments eligible for purchase included the government-backed Fannie and Freddie-guaranteed mortgage-backed securities, so that the Fed was effectively making allocative decisions, directly subsidizing the supply of credit to households but not to firms. It is arguable that the venture would have sat more comfortably within standard tenets of central banking, and been more compliant with our 'no big distributional choices' precept, if the Fed had been able to buy either neither or both of household and business loan portfolios. My point is to illustrate the need for more thinking on the construction of these parts of the regime.

Broad principles that could guide debates on such regimes might include the following[11]:

[10] The UK position was (and, I believe, is) that *de jure* the Bank of England was not legally constrained from buying private sector bonds, but that *de facto* it chose not to do so. Some Monetary Policy Committee members, notably Adam Posen, thought that a mistake.

[11] An earlier, fuller version was set out in Tucker, "The Only Game in Town? A New Constitution for Money (*and* Credit) Policy", Myron Scholes lecture, Chicago Booth School of Business, 22 May 2014.

A. Central bank balance-sheet operations should at all times be as parsimonious as possible consistent with achieving their objectives, in order to aid comprehensibility and accountability.
B. They should minimize risk of loss consistent with achieving their statutory objectives.
C. In particular, if they are permitted to operate in private-sector paper in order to stimulate aggregate demand, they should operate in as wide a class of paper as possible and the selection of individual instruments should be as formulaic as possible, in order to avoid the central bank making detailed choices about the allocation of credit to borrowers in the real economy.

Where, broadly, the line is drawn should be for political choice after public debate. As with emergency LOLR operations, if the line is moved during a crisis, that too should be determined or blessed by elected politicians.

In a US-type system, that power needs either to be openly delegated to the Administration or consciously withheld. Where it is withheld, the legislature itself would have to take any in-crisis decisions on whether to authorize innovative operations, along with whether they were to be conducted by the central bank on its balance sheet under its (newly provided) discretion, or by the central bank as agent for the fiscal authority, or by the Treasury under delegated fiscal authority.

That line of argument seems to be grounded in the deepest principles of representative democracy, but meets with one very serious, practical objection, an objection that applies to both the LOLR and monetary policy examples. One could think of it as the *Hamiltonian Objection*, as it amounts to those in power doing everything they can to protect the people.

The Objection

Say the legislature is sclerotic, and simply cannot bring itself either to delegate authority to the executive branch in advance or to make real-time decisions itself in a crisis. And say the public, the American People, are desperately threatened by the crisis, which might even shatter the stability of society. Should not the agencies that can save the people act? Should not the US cavalry ride to the rescue?

Or say that members of the legislature publicly oppose the contemplated action while privately signaling their agreement? Does that license the central bank to act, on the grounds that the legislature has itself vacated the moral high ground vested in it constitutionally?

Or what if the legislature is likely to 'retaliate' once the dust has settled, by removing some of the central bank's powers, leaving it less equipped to respond to future crises? Should the central bank weigh the net present value of its acting today against the prospective costs of its being less able to act tomorrrow? Or should it go ahead irrespective of the prospect of tighter future constraints, on the basis that if future crises are sufficiently grave, it should simply step around them (just as, in our thought experiment, it has stepped around 'today's' constraints)?

These difficult questions, which are not utterly fanciful given political currents in the US, turn on more than 'narrow' welfare judgments. They involve weighing the intrinsic merits of democracy, and the risks of eroding support for democracy by violating its deepest principles.

My answer, as set out above, remains unchanged: that the unelected leaders of independent agencies cannot rightly take that burden onto themselves. If the legislature cannot or will not respond in the face of dire emergency or if it is Janus faced or if reprisals are in the air, the moral and political burden of choosing must fall on the elected executive. If the question of emergency powers challenges some constitutional conventions but, against Schmitt and with Lazar, it does not undermine our most basic conceptions of democracy, the big choices should be in the hands of the elected executive, not unelected technocrats (just as, in a different sphere, the big decisions do not lie with the military).

So let me twist the knife.

What if it would be counterproductive for the President *openly* to approve an emergency course of action by the central bank? In contrast to the military sphere, it is not so easy to claim that the President has constitutionally ordained duties and powers in the economic sphere of the kind s/he has as the Commander in Chief. In that case, have our welfarist objectors got a point? Indeed, is their argument overwhelming if not acting might lead to a crisis that would prospectively lead to civil conflict threatening democracy itself? Should the central bank just do what it thinks to be right, regardless, possibly supported *privately* by the President?

I cannot see any clear *deontological* duties here. But nor can I see how a *welfare* assessment will suffice. One almost wants to fall back on old-fashioned Aristotelian ideas of *virtue*: ie if they find themselves there, we hope to have virtuous central bank leaders who will weigh the short-term against the long-term, welfare against majoritarian decision-taking, and so on. One or two truly great men amongst central bankers from the past fifty years might spring to mind. That feels precious, but also, it must be said, precarious. We seem to be stuck.

But we don't need to resolve our deepest moral dilemmas in order to shape principles for the design of regimes. And, fortunately, a practical prescription does emerge. We must strive to shrink as far as we possibly can the troublesome space in which there is neither a within-regime contingency plan nor an *ex ante* process with majoritarian credentials for determining in-crisis arrangements. Better to recognize that imperative up front when designing the central banking regime, in line with my fifth design precept for delegating to independent agencies.

Cooperation and coordination with the executive branch need not negate independence

To recap, then, the big questions for central banking regimes are (a) what powers should the central bank have during 'peacetime' to alter the shape of the consolidated state balance sheet; (b) what extra powers, if any, should it be granted *ex ante* to help handle crises, and what should be the trigger for activating them; and (c) should the elected executive branch be empowered, by the legislature or under the constitution, to increase those central bank powers during crises?

More effort has typically gone into (a) than (b) and, in most jurisdictions, almost none has gone into (c).

We find an example of how (b) and, especially, (c) cause confusion in a quirk in the different approaches to the political economy of QE in the US and UK. In the US, there was no coordination between the Fed and the Treasury, on the grounds that that could compromise the Fed's independence.

In UK, we took exactly the opposite view. Since we were changing the state's consolidated balance sheet in ways that carried risk for taxpayers but could also be offset by Treasury, the Bank of England sought and received from government an up-front indemnity against the financial risk entailed, and a public undertaking that it would not change its debt-management strategy. In the US, government debt maturities were lengthened, cutting across the Fed's stimulus. In the UK, that did not happen. But independence was not compromised as *we* decided, in the Bank's Monetary Policy Committee, how much QE to do and when.

One moral of the story is that independence does not preclude coordination, on the right terms. Another is that obtaining a sanction to innovate need not threaten independence. The challenge is to remain the initiator.

Joined-up regimes under the money-credit constitution

Summing up so far, three points have run through this analysis. First, for democratic legitimacy delegated powers need to be constructed as regimes based on clear general principles. That applies no less to central banks than to other independent agencies, and applies no less to LOLR and to stability functions more generally than it does to monetary policy.

Second, the components of an economy's money-credit constitution (MCC) should cohere. That is to say, the regimes for the nominal anchor, for the regulation and supervision of fractional-reserve banking, for the state's provision of liquidity reinsurance, and for the constraints on how central banks pursue their functions must be joined up. At a conceptual level, they should be guided by some simple benchmarks, even if the reality cannot be as simple as would be feasible in a world that placed a lower value on freedom.

Third, emergencies should not be fenced off for on-the-spot in-crisis improvisation, but should be catered for, substantively and procedurally, within the overall MCC.

In terms of analogies with the state's most basic functions, the central bank emerges looking like a hybrid of the high judiciary and the military. Like the judiciary, the central bank's insulation must be secure when it comes to deciding the stance of monetary policy. But subject to that constraint, there are circumstances where, like the military, its crisis-management repertoire can be, and sometimes should be, determined by elected political leaders. How much such coordination is needed turns on the extent to which contingency plans have been coded-in up-front. Not easy, but within reach.

There is, however, one important complicating factor that I have kept bracketed away. In terms of the results for society, the effects of any money-credit constitution depend on how fiscal policymakers conduct themselves. In saying that, I mean more than the elemental point that unsustainable public finances cannot co-exist with monetary stability. There can be a particular problem of strategic interaction even where the public finances are sound --- in fact, perhaps particularly then.

The Only Game in Town: strategic interaction with the fiscal authority

Over the past eight years it has become a common refrain that central banks have been the *Only Game in Town*. Quite apart from the discomfort this causes the central bankers themselves as they fret about unwarranted expectations and possibly also about their legitimacy, there are other voices raising the possibility that over-reliance on central banks has led to inferior economic results or entailed risks of impaired performance down the road.

Those sentiments can be detected in a wide variety of arguments. Of course, some suggest openly that it would have been better to support recovery through public-infrastructure investment, or with tax incentives for private investment, or through debt forgiveness[12]. Others focus more on the costs and risks of monetary stimulus. They suggest that the scale and nature of monetary easing have created risks to stability through fuelling a search for yield in domestic financial markets, or through spillovers into foreign, especially emerging-market, economies that could in time 'spill back', or by withdrawing 'safe assets' during a period when demand for such assets is unusually strong[13]. Although the point is rarely drawn out, the implication is that those risks would have been smaller if, in countries with fiscal capacity, less of the stimulus had come from monetary policy and more of it via debt-financed fiscal policy, since that would have resulted in an upward-sloping yield curve, a higher exchange rate and more truly safe assets being in private-sector hands.

To be clear, I am not inviting agreement with any or all of those arguments. My purpose is to illustrate a deeper point about strategic interaction between different arms of macroeconomic policy. In the short run at least, in countries with undoubted fiscal capacity, reliance on monetary policy looks to have been an attractive option for fiscal authorities as it lets them side-step the awkward party and national politics entailed by *overt* fiscal actions requiring a legislative vote.

The Bank for International Settlements has made the broadly similar point that aggressive monetary easing might have let legislators off the hook of making needed structural economic reforms directed at improving the efficiency of the real economy and raising permanent incomes. That is a concern that not a few commentators would feel is apt in the euro area and in Japan.

But what are central bankers meant to do: set their mandates to one side, sit on their hands, and undertake to resume business only if the politicians fulfil their side of a bargain designed by the monetary technocrats themselves? That would be for our unelected central bankers to elevate themselves to the position of Plato's Guardians --- precisely the fear that raises the legitimacy question.

[12] Those arguments have been advanced by, for example, Larry Summers, Martin Feldstein and Ken Rogoff.
[13] Those arguments, although advanced by others too, are often associated with, respectively, Jeremy Stein, Raghu Rajan and Riccardo Caballero.

So here we have it….Given their mandates, central banks have little or no choice --- under democratic principles and under the rule of law --- to do what they can to restore economic recovery consistent with keeping medium-term inflation expectations anchored. Elected policymakers know that and, further, are under no obligations to act themselves. In other words, the priority of democratic legitimacy for independent central banks can produce a strategic interaction with elected fiscal authorities that leads to what might sometimes (not always) be a flawed monetary/fiscal/reform mix.

In terms of the design of an economy's money-credit constitution, the big point is that in deciding what central banks should be able to do, it matters what incentives fiscal authorities have to use the instruments that they control, and how strategic interactions between different policymakers are framed. In other words, questions about the boundaries to central banking have to be taken together with what lies on the other side.

That should hardly be surprising given our description of the essence of what central banks do. They change the size and shape of the state's consolidated balance sheet in the pursuit of monetary-system stability. It obviously matters, therefore, how the fiscal authority is empowered and chooses to affect the state's balance sheet. The boundary between monetary policy and fiscal policy unavoidably becomes blurred once we move beyond the minimal conception, a set up in which the fiscal authority would take on many tasks typically associated with central banking.

The central bank operates therefore, at least implicitly, within a fiscal carve-out. Better that that be made explicit, with a *Fiscal Carve-Out* being amongst the terms of the regimes delegated to a central bank under their economy's money-credit constitution. In other words, the MCC is not only about central banking and fractional-reserve banking, but also lies in the shadow of an economy's fiscal regime. Where to draw the lines depends partly on what the people want their elected representatives in the fiscal authority to decide and control.

What is missing, therefore, is a clearer, well thought-through fiscal constitution. A cost of central bank independence seems to have been under-investment in thinking about and building fiscal institutions over the past quarter century --- just as, more obviously, banking regulation and supervision were neglected.

We need, for example, to be clearer about how the state can commit to debt levels that reflect its role as catastrophe-insurer of last resort; how the public finances should factor in imbalances in productive capacity and the tax base; the role and power of automatic stabilizers; how schemes to subsidize the supply of credit to particular sectors or borrowers fit with the central bank-led money-credit constitution; how a government can commit not to provide solvency bailouts; and more.

Central bankers are hardly alone in having an interest in stimulating debate on those issues. For those who favour the minimal conception of central banking, the work is vital and, surely, urgent. But it is no less important for those who believe in a somewhat more expansive conception of central banking.

Meanwhile, none of that provides a reason for putting-off updating and refining central bank regimes in a joined-up way. That must be done if we are to be served by monetary institutions that can combine credible commitment with effective crisis management on terms and in a manner consistent with democratic legitimacy.

Conclusion

I have been describing principles that can help resolve the apparent tension between systematic policy in normal times and flexibility in crises. My initial statement of the apparent dilemma proved badly flawed. LOLR liquidity reinsurance policy *can* be systematic, and *should* be framed within a regime. Further, just like the LOLR, monetary policy can reach the edges of its regime in circumstances where it could continue to be useful.

I have wanted to expose the risks of segmenting debates about monetary policy, the LOLR, and other responsibilities such as, increasingly, macro-prudential policy; and I have wanted to underline that the question of what happens at a regime's boundaries --- *any* regime's boundaries --- simply cannot be ducked.

In their core function of money creation, so long as their instrument-independence is not suspended or repealed by the legislature, a central bank's control over its policy must be absolute, constrained only by the goal set for them. But in a crisis, they must cooperate and coordinate with the executive branch, which might (not must) be empowered to authorize emergency extensions of the central bank's powers to achieve stability, *provided* that first-order distributional choices are not delegated. On that basis, coherent central bank regimes can be constructed. These powerful, independent, unelected institutions end up looking like a hybrid of the high judiciary and the military.

Credible commitment or emergency institutions? Both. The solution lies, perhaps unsurprisingly, in the design of regimes: for monetary policy, for LOLR policy, for balance-sheet policy more generally, and also for macro-prudential policy. In short, for anything delegated to central banks we need: clear objectives or standards to be set for monetary-system stability; an explicit *Fiscal Carve-Out*; the central banks themselves to articulate the operating principles that will guide their exercise of discretion; and our elected legislators to determine whether regime boundaries are fixed or whether in a crisis they could be publicly flexed by politicians to give their central bank more degrees of freedom to restore stability. Together with constraints on private banking, those individual regimes must be joined-up, providing a coherent overall money-credit constitution for our economies, in peacetime and crises.

That is in some ways an optimistic note on which to end. Admittedly, it leaves a lot of choices to be made, a lot of work to be done, a lot of public debate for our elected representatives to foster and resolve. But not more than that.

Other, that is, than to stimulate renewed debate on the design of fiscal constitutions, so that next time our central banks are not the only game in town.