The Architecture of Macroprudential Policy: Delegation and Coordination

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Abstract

There are technical and political economy reasons for the delegation of macroprudential policy but the absence of a measurable objective hinders accountability while some borrower-focussed policies may raise questions of political legitimacy. Macroprudential and monetary policies theoretically do not need to reside in the same agency but in practice it may be helpful. Finally, the financial market turbulence in spring 2020 highlighted that stresses may arise beyond the regulatory perimeter, emphasising the need for vigilance.

1. Introduction

The great financial crisis of 2007-8 not only resulted in a recasting and tightening of the regulation of financial intermediaries, but also the introduction of a new arrow into the policymakers' armoury in the shape of macroprudential policies. The purpose of such policies is to moderate building financial stability risks during normal economic times so as reduce their likelihood and impact in the event of crystallization. It therefore constitutes a preventative counterpart to central banks' longstanding role as the lender of last resort during a financial crisis.

Many of the instruments of macroprudential policy are not new. Lender-focused instruments such as bank capital requirements have long been part of the prudential framework but varying them with a view to managing systemic financial risk is novel. By the same token, borrower-focused instruments such as restrictions on the terms of household borrowing have been deployed historically

as a tool to control aggregate demand, though in recent years they have been displaced by variations in interest rates. But exploiting their potential to moderate systemic financial risks represents a new direction.

Alongside the introduction of this new armoury, is the issue of how macroprudential policies should be decided and by whom. Present arrangements differ across jurisdictions, often building on existing institutional arrangements, though in most cases the central bank is assigned a central role. In this chapter, I therefore consider three questions:

- Should macroprudential policies be delegated and if so to whom?
- Do macroprudential policies need to be coordinated with monetary policy?
- What light does the Covid pandemic shed on present arrangements?

2. Should macroprudential policies be delegated?

I begin by reviewing the circumstances under which it makes sense for a principal – in this case the government – to delegate a function to an independent agent. Doing so also helps to shed light on some of the potential difficulties.

2.1. Principles for delegation

Broadly speaking, there are three main considerations (for a fuller discussion of the issues, see Tucker, 2018). In the first place, there should be a good *reason* for someone other than the principal to take the decision. That could be because of its specialized nature or technical complexity – this is the case for banking supervision and the authorization of vaccines, for instance. Even then, the principal could retain ultimate decision-making responsibility, basing it on the advice provided by a suitably expert body or committee.

A more powerful argument for delegation applies when the principal cannot be trusted to take appropriate decisions, for instance because they may favour particular individuals or constituencies or because they place too much weight on short-term objectives relative to the long term. This is the classic argument for separating the impartial administration of the law by the judiciary from its formulation by the legislature and from the executive. It is also the basis for the

standard argument for the delegation of monetary policy, where there is a temptation to exploit the short-run Phillips Curve in order to generate higher activity, even though in a rational expectations equilibrium it just results in higher inflation and no gain in output.

Second, if the task is delegated, democratic legitimacy requires that the agent is held *accountable* for delivery of its mandated objective. It thus requires both a well-defined goal against which performance can be assessed and appropriate mechanisms for public accountability, such as appearances before the appropriate representatives of parliament.

Third, the execution of the task ideally should have only *limited impact* on the principal's other objectives or else be open to mitigating actions by the principal. If that is not the case, then it may be necessary either to re-cast the agent's mandate to take such considerations into account or for the principal to have some other way of ensuring that these other objectives carry appropriate weight in the agent's decisions.

An example of the problems that can arise is again provided by recent monetary policies. Large-scale asset purchases by central banks in the aftermath of the financial crisis and again during the Covid pandemic have led to criticism that by raising asset prices they are benefitting older and wealthier individuals at the expense of the young (e.g. Coibon et al., 2017), as well as altering the fiscal risks that governments are exposed to (Office for Budget Responsibility, 2021). Questions of distribution are inherently political in nature and ideally should not be left in the lap of technocrats.

2.2. Should macroprudential policies be delegated?

In light of these principles, should macroprudential policies be delegated? And if they are, where might tensions arise? First, it is worth noting the case for delegating macroprudential policy is weaker – or at least more complex – than for monetary policy. With respect to the first of the three criteria, there is certainly a good reason for delegating macroprudential policy to an independent agent. There are high technical demands placed on decision makers. Moreover, during the upswing of a financial cycle, risks tend to appear low and financial institutions and investors are prone to claim that 'this time is different'. There is little incentive for a government to take the punch bowl away just as the party is

getting lively, especially if an election is in the offing. Delegation to an agency hard-wired to take a long view of the risks to financial stability therefore makes sense. So far, this is like the argument for delegating the operational responsibility for monetary policy.

Meeting the other criteria for effective and legitimate delegation is trickier. For monetary policy, we have a widely accepted and regularly and objectively measured yardstick in the form of inflation. To be sure, the appropriate inflation target and how quickly to meet it are open to debate. But nevertheless, we know broadly what the objective of monetary policy should be, namely to stabilize inflation (or perhaps the price level). In contrast, the objective of macroprudential policy is to limit the build-up of systemic financial risks but we have no objective and regularly observed indicator of systemic risks analogous to the monetary policy objective. Adrian, Boyarchenko and Giannone (2019) have adopted the approach from finance of estimating the 'value at risk' on a portfolio and applied it at an aggregate level to derive an analogous measure of 'Gross Domestic Product (GDP) at risk'. The International Monetary Fund (2017) have also used this approach to quantifying and tracking countries' risk exposure. While useful, however, this approach relies on lots of potentially debatable underlying assumptions, rendering it less suitable for the purposes of justifying policy decisions and holding decision makers to account.

In practice, most macroprudential policy committees rely instead on tracking a dashboard of indicators, supplemented by additional indicators as appropriate, to inform and explain their decisions. Inevitably judgement plays an important role as to their significance and there is often likely to be disagreement on whether action is necessary. This disagreement is likely to become more pronounced during the upswing of a financial cycle. So effective monitoring and accountability of decision makers is bound to be more elusive than for monetary policy.

Finally, some macroprudential actions, by their very nature, are likely to impact on particular individuals and businesses. That may be less of an issue with lender-focused instruments, such as the countercyclical capital buffer and risk weights, which have a generalized impact on the supply of credit. Measures designed to increase the resilience of banks may have the effect of reducing the supply of credit but that will not be immediately obvious to the general public. In contrast, borrower-focused instruments, such as limits on loan-to-income or loan-to-value ratios, directly restrict the availability of credit to particular borrowers.

Consequently, they may prove contentious unless there is clear public support for the delegation of such powers.

Balls, Howat and Stansbury (2016) suggest that a potential solution lies in introducing an additional layer of political oversight in order to bolster political legitimacy, while retaining operational independence. The open question is whether that also creates a re-entry route for the time-consistency problem.

2.3. Delegation in practice

Chart 1 shows how responsibility for macroprudential policy making varies across 47 selected jurisdictions. The diversity of arrangements is striking and to a large extent an historical accident, with each country usually building on existing institutional arrangements, rather than the outcome of deliberate institutional design. Delegation to a technocratic agency is the norm though, with the finance ministry (i.e. the executive branch of government) in the lead in only five instances, although finance ministries will often have a voice in other set-ups, particularly where there is a committee composed of representatives of several agencies.

Where the central bank is responsible for banking regulation and supervision, it is often in the lead for macroprudential policies, and indeed in 40 per cent of the jurisdictions, the central bank is the agency with prime responsibility. And there are a handful of countries where another regulatory agency takes lead responsibility. But in 20 per cent of cases, policy making is the responsibility of a committee or council, with representatives drawn from several bodies or agencies.

This is notably the case in both the United States (the Financial Stability Oversight Council, chaired by the Treasury and comprising the federal supervisory agencies and securities regulators) and the European Union (the European Systemic Risk Board, comprising the European Central Bank and constituent national central banks, the European authorities on banking, insurance and securities, the European Commission, and the Economic and Financial Committee). In both cases, the fragmentary structure of the regulatory landscape makes a committee approach almost unavoidable. However, the cost is that such arrangements tend to inhibit nimble and decisive policy action, especially if there is a focus on trying to act by consensus.

This structural bias towards delay can, though, be mitigated if there is one or more actors that can enforce system-wide action. For instance, the European Systemic Risk Board lacks direct executive powers and can only issue recommendations for action to the relevant regulatory or supervisory bodies, which will often be located at the national rather than supra-national level. However, the European Central Bank, which under the Single Supervisory Mechanism has direct supervisory responsibility for only the larger European banks and relies on national agencies to supervise smaller banks, can impose higher bank capital requirements across the system if it judges that is necessary to contain the risks to financial stability.

3. The interaction of macroprudential and monetary policies

Although the central bank is often the natural agency to carry the responsibility of macroprudential policy, especially if it is also the banking regulator, an additional argument that is sometimes heard is that it facilitates co-ordination with monetary policy. In this section I therefore explore the issue of the co-ordination of monetary and macroprudential policies in a little more depth.

3.1. Theory

To see how monetary and macroprudential policies interact, rather than develop a formal model with microfoundations, I instead adopt a simple schematic approach (see Figure 1) which I believe captures the key features present in most such formal models; for a fuller description, see Bean (2014).

The twin objectives of policy are to meet a given inflation target and to keep financial stability risks below some specified level (as captured by the level of GDP at risk, for instance). For simplicity, I assume there are just two policy instruments: the nominal policy rate, R, and a minimum bank capital ratio, K. Importantly, each instrument affects the likelihood of meeting both objectives.

Starting with the market for goods and services, aggregate demand is assumed to be a decreasing function of the real interest rate and thus also of R. In addition, because a higher bank capital requirement reduces the volume of credit and increases its price (see below), aggregate demand is also assumed to be a

decreasing function of K.[1] The inflation target can then be achieved by the set of pairs of R and K along the downward sloping schedule PS (for Price Stability) in the left-hand panel of Figure 1. An increase in demand resulting from, say, an increase in the propensity to invest, would shift this schedule out to the right.

Turn now to the credit market. The demand for credit decreases with the rate banks charge on their loans, while the supply of funds to banks increases with the rate offered on banks' debt (including deposits), which I assume moves with the policy rate R. In a competitive market, the spread between the rate charged on bank loans and the rate paid on bank debt then reflects the likelihood of default not only by end borrowers but also by the bank (as well as all the other costs of intermediation). In credit booms, this spread is unsustainably compressed, while during credit crunches it widens sharply. Higher bank capital requirements, K, reduce the supply of credit and increase the spread between the loan rate and the rate on bank debt. It thus lowers the risks of future financial instability. Because a higher level of the policy rate R reduces the volume of funds supplied to banks, it too lowers the quantity of credit. A higher policy rate therefore also reduces the risks of future financial instability.

We can now construct a second downward-sloping relationship FS (for Financial Stability) that shows the minimum acceptable level of the policy rate for any given setting of the bank capital requirement; see the left-hand panel of Figure 1. A reduction in perceived risk leading to excessive exuberance on the part of investors or borrowers would shift this frontier to the right.

The respective slopes of the PS and FS schedules depend on the *relative* impact of the policy rate and the bank capital requirement on aggregate demand and on the quantity of credit. A well-chosen and well-designed macroprudential tool is one that has a relatively large effect on the quantity of credit and thus on financial stability risks but only a modest impact on aggregate demand and inflation. That would generate a relatively flat FS frontier. Moreover, since changes in policy rates also affect aggregate demand through routes other than the credit channel

[1] Credit frictions and higher bank capital requirements could also restrict the supply of output (as in Cúrdia and Woodford, 2010, for instance) but, if so, I assume that the net effect of a higher bank capital requirement is to reduce the demand for goods and services more than its supply.

(such as the exchange rate), it seems reasonable to assume that the PS schedule is relatively steep. That is the configuration of relative slopes shown in the left-hand panel of Figure 1. Provided the two schedules do not coincide, both price and financial stability objectives can be achieved simultaneously – a simple application of the Tinbergen principle.

With this configuration, it is also natural to assign instruments according to their comparative advantage in meeting the respective objectives: the policy rate to the pursuit of price stability; and the bank capital requirement to the pursuit of financial stability. This is just an application of Mundell's (1962) principle that policies should be paired with the objectives on which they have the most relative influence.

Furthermore, with these slopes and this assignment, no active co-ordination in the setting of the instruments is strictly necessary: a process whereby each instrument is set independently, taking the other as given would converge on the point A (i.e. the Nash equilibrium), as shown by the dashed lines. Under these circumstances, the two policies can be delegated to two different agents or committees, in principle operating quite independently.

This analysis also suggests that if more than two instruments are available – say, large-scale asset purchases and limits on loan-to-income (or value) ratios are also available – those instruments with a large impact on aggregate demand relative to their impact on financial stability risks should be assigned to the agent/committee responsible for achieving price stability, while those with a relatively large impact on financial stability risks relative to aggregate demand should be assigned to the agent/committee responsible for managing the risks to financial stability.

Finally, the right-hand panel of Figure 1 illustrates some simple comparative static results. For instance, a bout of 'irrational exuberance' on the part of households, businesses and investors could be expected to be associated with an increase in the demand for goods and services from households and businesses, together with increased demand for credit and a reduction in the credit spread. In that case, both PS and FS would shift out, taking us from A to B with a tightening in both instruments.

On the other hand, a beneficial supply shock will shift the price stability schedule in (say, from PS' to PS) but may also encourage increased borrowing and a compression in spreads, leading the financial stability frontier to shift out. In this

case we move from C to D, with monetary policy being loosened at the same time as macroprudential policy is tightened. Superficially this looks as if monetary and macroprudential policies are at odds with each other, though such a rebalancing of the policy mix is in fact entirely appropriate.

3.2. Practice

While macroprudential and monetary policies could, then, in theory be delegated to entirely separate agents or agencies, in practice there is much to be said for them to be at least closely connected, acting on a common basis of information and well informed about each other's thinking. At a minimum, it ensures co-ordination is smoother and there are less likely to be differences in view about appropriate policy setting. Certainly, in my time at the Bank of England, it was immensely helpful that the Monetary Policy Committee (MPC) and Financial Policy Committee (FPC) were in the same institution, with overlapping memberships, received briefing in common and had the scope to meet jointly if required. But distinct committees also allowed for some members that have specialist knowledge relevant to monetary policy but not financial policy (such as labour market experts) and vice versa (such as financial market practitioners). It also makes the lines of accountability clearer: the monetary policy committee has prime responsibility for maintaining macroeconomic (price) stability, while the macroprudential policy committee has prime responsibility for the prevention of harmful episodes of financial instability.

The case for architectural closeness – or even a single agent/committee being responsible for both tasks – becomes even stronger when there are the limits on the ability of one of the agents/committees to achieve its objective with its own instruments. In that case, we may want the other agent/committee to seek to achieve an appropriate balance across between achieving both monetary and financial stability.

Ahead of the financial crisis, and even more so subsequently, there was a lively debate as to whether monetary policy should be tightened during the upswing of a putative financial cycle so as to restrain a dangerous build-up of leverage, even though such a policy might involve slower output growth and inflation undershooting its target. Notable advocates of such 'leaning against the wind'

(LATW) include White (2009) and Bank for International Settlements (2014,2016), while a prominent counter view is provided by Svensson (2017).

In line with my earlier theoretical discussion, most policy makers accept that macroprudential instruments should be the first line of defence against such incipient risks to financial stability. But there may be times when those instruments are ineffective, for instance if they have insufficient traction or the financial stability risks are building outside of the regulatory perimeter. In that case, tightening monetary policy may be the only viable option; monetary policy may be a blunt tool for addressing financial stability risks, but it does have the virtue that it "gets in all of the cracks" (Stein, 2013).

The policy making architecture needs to accommodate this possibility. Clearly that is not a problem if a single committee has charge of both policy toolkits and is responsible for achieving both objectives. But what about when there are two committees with distinct toolkits and objectives?

The arrangements adopted in the UK offer, I believe, a viable approach. Since 2013, the remit for the MPC has contained an instruction along the following lines:

> *"Circumstances may also arise in which attempts to keep inflation at the inflation target could exacerbate the development of imbalances that the FPC may judge to represent a potential risk to financial stability. The FPC's macroprudential tools are the first line of defence against such risks, but in these circumstances the MPC may wish to allow inflation to deviate from the target temporarily, consistent with its need to have regard to the policy actions of the FPC."* (Remit for the MPC, March 2021)

This allows the MPC to undertake an LATW-type response when the FPC believes its own instruments are not up to the task. Importantly, this rubric does not *force* the MPC to respond to these concerns; it is only permissive. For instance, it may well be the case that the MPC (potentially in conjunction with the FPC) takes the view that a monetary policy tightening would also prove ineffective or that the cost-benefit calculus does not warrant taking such action (Svensson, 2017).

It is worth noting that with two committees, the set-up should really be symmetric. Policy rates are now at or close to their effective lower bound, while the very flat yield curve potentially renders quantitative easing through large-

scale bond purchases of limited effectiveness in boosting aggregate demand. In such circumstances, fiscal policy really ought to be the first line of defence in sustaining demand. But if for some reason that is unavailable, there is at least an argument that some loosening of macroprudential policy in order to boost aggregate demand by expanding the supply of credit is warranted. While LATW has received a lot of recent attention, few seem to have appreciated that there is a parallel argument that there may be times when macroprudential policy should be directed to sustaining aggregate demand even at the cost of increasing the risk of future financial instability. The corresponding remit for the FPC also enjoins it to have regard for the actions of the MPC, so allowing for this possibility.

4. Lessons from the pandemic

To close, I shall briefly consider what the Covid-19 pandemic tells us about the effectiveness of the macroprudential architecture. Of course, the heavy lifting in response to the pandemic came through the health response and various fiscal measures to support households and businesses while activity was constrained. But the early stages of the pandemic during the spring of 2020 were also marked by substantial turbulence in financial markets. That necessitated significant intervention by central banks both as a lender of last resort and as a market maker of last resort, as liquidity disappeared in many market segments, including the market for US Treasuries, normally seen as a go-to asset during times of stress. Subsequently, central banks acted alongside fiscal authorities to keep the supply of credit flowing.

Macroprudential policies were simultaneously loosened in many jurisdictions. Edge and Liaing (2021) record one or more such interventions in 41 out of 56 jurisdictions, most notably including reducing bank capital requirements but also introducing forms of non-capital relief and loan forbearance programs. But it is an open question whether the authorities could have done more before the event to moderate the risks.

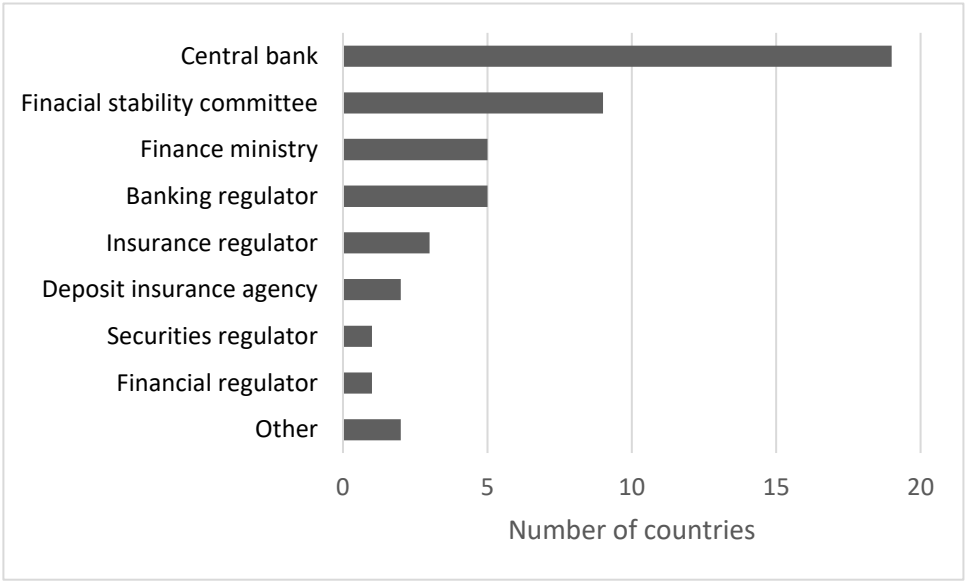
That this period of market stress did not result in major institutional failures in part reflected the fact that banks were generally better capitalized following the tightening in regulation after the global financial crisis. But it surely also reflected the shock being a truly exogenous tail event, as well as the extensive fiscal

support, which effectively transferred some of the prospective loan losses onto the public sector balance sheet.

What the episode did highlight, however, is that episodes of financial instability are as likely to arise from market illiquidity and affect players outside the banking sector, as they are to be located within the core of the banking system. Macroprudential authorities were already aware of the incentives for activities to migrate outside the regulatory perimeter, and rapid advances in the application of information technology to finance is also generating new sources of instability. But the market stress of spring 2000 reinforced the importance of keeping such new threats under surveillance and, if necessary, acting to contain them.

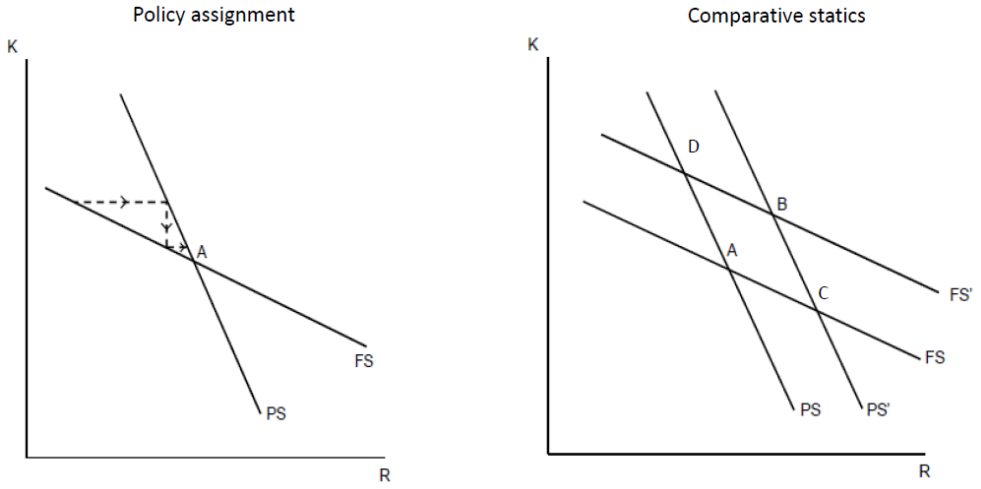
From an architectural point of view, that makes it all the more important that the macroprudential authorities have access to good information on such emerging threats, as well as a sufficiently wide representation to understand them properly. Hubbard et al (2021) provide a comprehensive assessment of the limitations of the US arrangements exposed by the pandemic and make several practical proposals for improvement. Authorities elsewhere would be wise to use the opportunity afforded by the pandemic to identify and address similar shortcomings, for (to mis-quote Thomas Jefferson) 'eternal vigilance is the price of stability'.

Chart 1: Macroprudential responsibility across 47 jurisdictions



Source: International Monetary Fund (2011)

Figure 1: Monetary-macroprudential policy interaction



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