BANK OF ENGLAND

Speech

My reflections on the FPC's strategy

Speech given by

Anil Kashyap, Member of the Financial Policy Committee, Bank of England

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I thank Caspar Siegert, Andy Walters and other FPC members for numerous helpful conversations about these issues. The views expressed are my own and do not necessarily reflect those of the Bank of England or other members of the Financial Policy Committee.

Thanks for inviting me to be part of this conference. The JMCB has been an important journal in our field and it is an honor to be on this panel.

Today I want to talk about the UK Financial Policy Committee, which is the group that was created after the last financial crisis to try to make sure that the UK financial system is resilient to, and prepared for, the wide range of risks it could face. I am one of the external members of the committee and our tag line is that we want the financial system to be able to serve UK households and businesses in bad times as well as good.

The FPC is on the cusp of entering its seventh year of official operation (we had an interim group for two years before that) and we have done some stock taking to assess where we stand. My goal today is try to share my views on this question. Importantly, because I only joined the committee 2.5 years ago, I have not been present for all of the discussions, what follows are obviously my own views. In fact, part of my motivation for talking about this subject is to challenge myself to see if I can articulate clearly what we are doing.

You will see that in some ways the FPC is wrestling with questions that have not received much attention either from academics, or from the policy community outside of the UK. So the chance to engage the many experts in this audience is a great opportunity. I look forward to the ensuing discussion.

A second motivation behind the talk is to improve public understanding of the FPC, so that people can better anticipate what we do as events unfold and appreciate why we think that is reasonable. Ideally, this will make the public more confident that the job of delivering financial stability is in good hands. I am not going to talk about the nitty gritty of how our meetings work because I have previously described that.[1]

My plan is to cover 5 topics. I will start with a brief summary of our remit, just so you all can see what we are and are not supposed to be doing. Then I will give you my view of how we make that remit operational. For me that amounts to trying to deduce the implicit model we have for how financial instability can arise. That leads to the third issue, which is what tools have we developed and how do I think about using them? Then I will give my summary of a few of the lessons I think we have learned so far. Lastly, I will identify some of the challenges that I think we face in moving forward.

I. Statutory Objectives

The FPC takes its direction from the founding legislation that was passed by Parliament, coming into force in 2013, and from an annual letter sent by the Chancellor to the Governor of the Bank of England (who chairs the FPC) that gives some specific guidance on government objectives.[2]

[1] Kashyap (2018)
[2] HMT (2018)

The law charges us with the responsibility for the identification of, monitoring of, and taking of action to remove or reduce, systemic risks with a view to protecting and enhancing the resilience of the UK financial system.

Those systemic risks include, in particular -

(a) systemic risks attributable to structural features of financial markets, such as connections between financial institutions,

(b) systemic risks attributable to the distribution of risk within the financial sector, and

(c) unsustainable levels of leverage, debt or credit growth.

The Act empowers us to publish our views about systemic risks, to make recommendations or directions to others, such as the Financial Conduct Authority and the Prudential Regulation Authority, and to request additional authority from Parliament, via the Treasury. We have acted often, making 47 formal or informal interventions, all of which have been accepted and carried out.[3]

We have taken these instructions and made them operational by identifying a number of recurring issues that we discuss and report on. I would like to highlight three examples that are indicative (though far from exhaustive) of what we do.

The first concerns the resilience of the banking sector. We are responsible for overseeing the overall capital framework for banks and indeed this took up much of the committee's time in the early days. Recall that equity financing is required by banks so that they can absorb losses without defaulting on their obligations. The post-crisis international framework sets different levels of required capital based on the riskiness of banks' activities, as well as a risk-insensitive 'leverage ratio', which puts a floor on the size of the banks' equity base. Most of these guidelines are tied to the riskiness and scale of *individual* banks' activities.

But there is one capital standard that is different. Every quarter we are also obliged to set the level of the "UK counter cyclical capital buffer rate", affectionately known as the CCyB. It is set based on aggregate market conditions and is varied depending on those conditions. When credit conditions become excessively loose, the risks to all banks rise and so we can increase the CCyB to make sure that the banks' resilience to risks also increases. Conversely, when risks crystalize we can release the buffer so that the equity can absorb losses as they are realized, without banks having to breach their minimum capital requirements. That allows banks to keep lending during periods of stress. The idea that total capital requirements should fluctuate in

[3] This figure includes formal and informal FPC recommendations to HMT, the PRA and FCA, statements supporting other regulatory initiatives, communications to other regulatory bodies, and changes to pre-existing FPC policies.

this way is an example of an explicitly macroprudential idea that has been put into practice. Taking the decision on how to calibrate the level of the CCyB raises practical issues that I will describe momentarily.

A second example of recurring focus and action relates to the rest of the financial system that is outside the banking system. The so-called “shadow banking system” in the U.S. was at the center of the last financial crisis. Part of the reason why that trouble emerged is that there were many parts of the system that were unregulated or very lightly regulated. Once a year we undertake an exercise to review the regulatory boundaries to make sure that threats are not emerging in areas that are not being carefully monitored and supervised. Again the idea of looking at the system as a whole and taking responsibility to make sure everything is appropriately covered is a fundamentally different mindset to what prevailed prior to the crisis.

Finally, in 2015 the FPC was given additional powers by the Treasury to guard against financial stability risks arising from the UK housing market. In fact, the FPC had already acted in 2014 Q2 to address risks in the housing market by making recommendations to the PRA and FCA. When the FPC was subsequently asked which tools might be needed to guard against financial stability risks from the housing market, the committee concluded that it required powers of direction (i.e. not just recommendation) over loan to value ratios and debt to income levels. Along with these powers came the responsibility to review the guidance that was given and potentially adjust the calibration of the tools’ settings. These interventions that are aimed at ensuring the resilience of borrowers is a third, new dimension to regulatory power.

II. Making it operational

There are a variety of ways you could try to characterize how we put this remit into practice. I find it helpful to lump the risks and the committee’s associated actions into four categories.

Obviously from the remit we have to be concerned with the resilience of the banking system. The system failed in the last crisis and we are determined that will not happen again. There is abundant evidence that our actions back up this promise.

Between our stress tests, our policies on capital buffers related to systemic risks, and the decisions we take every quarter on the CCyB, it is clear that we are actively trying to ensure that the banking system is in a position to support the economy in bad times as well as good.

The legislation also makes clear that we have to consider the role that the financial sector plays in supporting the economy.   If you read our financial stability reports that come out twice a year, large parts of them relate to market risks. For example, the June 2018 FSR identified our concerns that compensation for risk-taking was unusually low.[4] We always comment on aggregate credit growth, which includes both bank and market

[4] Bank of England (2018)

supplied credit. When you read the summary of our deliberations, which is now released simultaneously with our policy statement, you can see that there are lots of discussions of other market risks.[5]

So our words are also clearly aligned with this part of the remit. Looking at our recommendations and other actions you can also see that this is not just a case of talking. At various points we have taken steps to address issues related to market based finance risks. The aforementioned review of the risks that could arise from outside the core banking system is one example. By prodding the committee to consider these kinds of risks, the legislation forces us to think about scary scenarios and be vigilant about them.

One important thing to keep in mind is that financial stability is not the same as market stability. We want markets to function well and that includes times when assets need to be repriced. So we are not trying to suppress volatility. Indeed, we frequently comment on times when we fear markets are overly complacent about risks and may be under-pricing them.

The third kind of financial stability risk that we consider regards threats to what I will call “infrastructure”. By this I mean the supporting structures that lie beneath the financial system. Some of these are familiar, like the payment system that allows people to move money or the exchanges that facilitate trading. However, there are other things that also matter such as the integrity of contracts. A good example of this is the integrity of reference rates, such as LIBOR, that can be embedded inside contracts. Hopefully you all know that we are trying to move away from LIBOR towards a new benchmark that will be more robust.[6]

The fourth risk that the FPC worries about is the aforementioned resilience of borrowers. The primary area where the FPC has acted on this concern is in the housing market. In the UK, mortgages are made with recourse and consequently default rates are much lower than in some US states where there is no recourse. However, the mortgage market can still be a possible source of risk. A great deal of recent research shows that when borrowers begin having trouble repaying their mortgage (whether because of an increase in interest rates or a drop in income, or decline in property values that prevents refinancing), they cut other spending. This decline in spending can amplify downturns and the FPC tries to mitigate this risk in ways I will describe more below.

Ideally we would have a full economic model (and an associated econometric version) that could be used to guide our decisions. We are not quite there yet, so perhaps someone in the audience will help us come up with one.[7] For today, I will describe my own partial, implicit model with a simple diagram (Figure 1).

The purpose of a model is to help us think about threats to stability and how to manage them. Our objective is to make sure that the financial system does not amplify shocks that occur elsewhere in the economy, or

[5] Bank of England (2019)
[6] Bailey (2018)
[7] See Kashyap and Lorenzoni (2019) for one attempt in this direction.

worse still become a source of shocks, that would put the economy in a worse position. So where can threats come from?

The model supposes that a thriving real economy depends on borrowers being healthy and having access to a reliable supply of credit. If either the supply of credit is materially impaired or a significant proportion of borrowers are over-extended, then the economy will suffer and the FPC will not have done its job. So stability requires paying attention to both credit supply and borrower resilience.

The model further presumes that households steer their savings through markets and banks. So credit supply can become compromised if either of these channels is weakened. Hence policymakers need to pay attention to the strength and resilience of both of these channels.

Finally, the model recognizes that there are feedbacks from the condition of the real economy to borrowers, markets and the banking system. These feedbacks cannot be fully prevented. The economy is hit with shocks all the time and the FPC does not try to eliminate all volatility. What the committee is trying to ensure is that the financial system and borrowers are strong enough to withstand those shocks so that they do not amplify them.

III. What tools do we have and how do we think about using them?

Table 1 shows examples of the main policy levers that the FPC has employed to date. I think about them falling into 3 categories that align with the categorization of threats in Figure 1. First, there are many familiar tools that pertain to the banking system. Two in particular stand out. The first is the annual stress test that is used to assess the resilience of the UK banking system. The second is the setting of the CCyB. Together these are two main levers that the committee uses to ensure that the banking system is resilient.

These two tools work well together. When we finish the stress test evaluation we compare the overall level of capital that banks would be expected to have in stressed conditions with the hurdle rate that we believe is necessary for the system to function. If the tests reveal a shortfall, then the CCyB can be adjusted to build up further resilience. Of course, we do not just look at the stress tests in setting the CCyB. We review it every quarter and also move it based on our judgment about the risks in the economy.

I do not want to falsely imply that these are the only important banking tools. The FPC has also taken other actions to shore up the banking system in the past, including the introduction of the UK leverage ratio framework in June 2015. The framework is made up of a minimum equity-to-assets ratio of 3.25%, a countercyclical leverage ratio buffer rate (closely linked to the CCyB) and an additional leverage buffer for globally systemic banks. It also includes a recommendation that banks' 'CoCo' bonds (i.e. bonds that convert to equity in times of stress) should have a higher trigger level of capital in order to count towards their minimum leverage ratio requirements.

The second category is policies that are made regarding financial markets. This covers the other side of credit supply. Examples here include addressing data gaps in shadow banking, asking banks to contingency plan for LIBOR and other benchmark rates becoming unavailable, and designing cyber stress tests, including for financial market infrastructure providers. Our Financial Stability Report also often includes warnings to market participants about the risk environment that can promote stability.

The third category is the housing tools that are aimed at ensuring that borrowers do not get too over extended. These tools are probably those least familiar to people outside the UK. The two housing tools that the FPC has used to date are: (1) ensuring mortgage lenders limit the proportion of mortgages at loan to income (LTI) multiples of 4.5 and above to no more than 15% of their new mortgages; and (2) ensuring mortgage lenders apply an interest rate stress to borrowers of 3 percentage points, on top of the reversion rate specified in their mortgage contract.[8] We call these tools the "LTI flow limit" and the "affordability test".

The logic for using these tools is that when mortgage payments become too onerous in a downturn, people begin cutting back on their other spending. This will weaken the economy. So these tools can be thought of as trying to limit how many people might encounter difficulties in meeting their mortgage payments.

Past empirical work suggests that borrowers with higher LTI mortgages cut their expenditure during the crisis by more than those with lower LTIs.[9] Logically, this is because more of their available income has to be diverted to paying for housing. Similarly, other evidence indicates that when people find themselves having to commit more than 40% of their available income to paying for housing, they are more likely to fall into arrears.[10] For some people, being temporarily in a position of having a high debt service ratio is a safe and wise decision. For example, if a family knows that future income is set to rise, stretching to buy a big house makes sense. So that is why the tools do not constitute an outright ban on mortgage options for people who could wind up with a DSR above 40%. However, if too many people are in this situation, there is a risk that aggregate spending could decline in a downturn.

Figure 2 gives one way to summarize this risk. The picture shows the fraction of households that we have estimated to have more than 40% of their income committed to mortgage payments. The solid line represents data from the British Housing Panel Survey, which is published with a significant lag, so the figure includes a comparable, more timely series from 2011. For the most recent observation, we have added a red dot. That dot shows the percentage of households who's DSRs would exceed 40% if interest rates were to jump by 3 percentage points, as per the FPC's affordability test.

Loosely speaking, I think of the housing tools as being designed so that we limit the percentage of people that would wind up in this situation. You can see how the tools contribute to this objective. The DSR

[8] The FPC also has powers to set loan-to-value limits on new owner-occupied lending, and powers to set affordability tests and loan-to-value limits on new buy-to-let lending, but to date hasn't deployed these tools.
[9] Bunn and Rostom (2015)
[10] Bank of England (2017)

depends on three factors: the amount borrowed, the interest rate on the borrowing and the income level. The LTI tool limits the ratio of borrowing to income. Unless income drops, say because of job loss, this will help prevent excessive DSRs. The affordability test checks what happens were interest rates to jump up. This could happen because of a general rise in the level of interest rates or because a borrower's contracted rate rose when the fixed rate period expired and the rate was not refinanced (say because the value of the house had fallen).

How do we calibrate the exact setting of the tools? That obviously differs depending on which is being considered, but I think we are using three guiding principles. Let me describe each principle and use the housing tools to illustrate them.

First, the tool needs to be set in such a way that it will fix a problem that the private sector will not attend to on its own. Economists would say that there must be an "externality" that needs to be remedied.[11] In the case of the housing tools, the problem to be addressed is that individual borrowers and lenders do not worry about the macroeconomic consequences of the fact that the borrower might need to scramble to continue paying the mortgage by cutting spending.[12] So the LTI limit and affordability test can be thought of as trying to make sure that the fraction of households in this condition does not become too large.

Second, we rely heavily on cost-benefit analysis. Our mandate does not say we should take all possible steps to prevent instability. We would not want to stifle credit extension to such an extent that we have the stability of the graveyard. In the case of housing, this is exactly why we do not try to limit all borrowers to have low DSRs or limit all banks to have only low LTI loans.

Figure 3 shows how the distribution of LTIs has evolved. You can see that the fraction of LTIs above our limit of 4.5 has stayed roughly constant, at around 10%. However, the fraction of loans that are between 4 and 4.5 has ticked up since the implementation of the policy. This is a program feature, not a bug! The whole point of the policy was not to deny borrowers access to credit, but merely to limit the set of people who might wind up with an excessive burden. Looking back at Figure 2, you can see that there has not been a surge in households with DSRs above 40%. So the bunching of people whose mortgage choices are just below the cut-off seems to be having the desired effect. This is a great example of the cost-benefit considerations that guide us.

Finally, we constantly ask whether the tools we are considering are well suited to solving whatever problem we are trying to fix. Many of our tools are "structural" in the sense that they rarely need to be recalibrated even as the economy evolves. Others, most obviously the CCyB, are cyclical and need to be adjusted more regularly. I think of the housing tools as a hybrid. On the one hand, we want to use them to guard against

[11] See Kashyap and Wetherilt (2019) for an application of this principle in the context of managing cyber risk.
[12] The same logic could apply to corporate borrowing and it might also be natural to monitor the deleveraging risk in the corporate sector. See Greenwald (2019) and Lian and Ma (2018) for important work in this area.

the risk of too many high DSRs arising. So that objective is clear and not really subject to re-assessment. On the other hand, we could conclude that either the setting of the LTI limit or the stress level in the affordability test needs to be adjusted to keep the deleveraging risk at an acceptable level. We have seen since the policy was put in place that the chosen settings have been adequate for a number of years, but that does not mean that they will prove to be completely time-invariant.

IV. What lessons have we learned from operating so far?

I would point to 4 main lessons that I think we now have recognized and try to incorporate into decision making.

One humble observation is that the period since the GFC may not be terribly representative. The recovery was slow and the financial system took a long time to heal. The FPC has yet to judge that the risk environment associated with overall financial conditions is elevated above the standard level. So we do not know how the committee will fare in setting policy and making judgments when we reach that situation.[13] We should not take too much comfort from having prevented a crisis so far.

A second lesson is that the committee is balancing several considerations in making its decisions. We need to be forward-looking to prevent risks. Yet, we also want to be transparent and predictable in our actions. If the private sector can anticipate our actions that helps financial stability. For instance, in designing our stress tests the banks know that our stresses will be deeper if the level of risk is higher. That creates an incentive for the banks to have a prudent dividend and repurchase policy, so that they retain sufficient earnings to operate in the event of a stress.

A third lesson is that the committee needs a portfolio of skills among the members. The internal members bring some diversity by design. The deputy governors have different responsibilities which keeps them alert to a range of factors. We also need the breadth of the backgrounds and expertise of the external members. Our conversations are richer because we have people with experience as private sector participants, in regulating and in doing research on the financial system.

Finally, I think we have learned from the dogs that did not bark. Some observers worried that there would be fights between the FPC and the other main bank policy committees (the PRC or the MPC). Others worried about cooperation with the FCA. In my experience, there has been none of that (admittedly it helps that there is overlapping membership). We meet regularly in joint sessions with the PRC and MPC and there are many informal conversations too. The committees have cooperated quite well. FCA staff routinely brief us and we share information back and forth regularly. Subject to the first lesson about the

[13] Perhaps the most relevant experience here has been dealing with pockets of risk that the committee felt were elevated. Recent examples would be concerns over rapid growth in consumer credit and leveraged lending.

representativeness of this sample period, these concerns have not been a problem. I think in other jurisdictions that are still designing macroprudential regimes, the fact that this kind of cooperation has been achieved should be noted.

Likewise, the public pushback against the committee has been minimal. No one knew what the reaction would be once we started taking decisions in areas that had been ignored previously. For instance, the housing tool actions were unprecedented. Yet, they have generated little criticism and in fact have lots of support.[14]

V. Challenges

There are a variety of challenges that remain. Let me close by pointing to three of them.

First, we are still learning how to communicate effectively. The MPC was the model for many aspects of the way the FPC was set up. One important difference between the two is that the MPC is managing proximate risks that relate to the central forecast for the economy. The FPC has to worry about tail risks. Explaining counterfactuals that are rare is very difficult. None of the tools we use are nearly as widely followed as bank rate. This has also meant that our committee is still not very visible to the public. The Bank is taking steps to simplify all of its public communications through its Vision 2020 initiative.[15] The FPC is working hard on this front, for example by 'layering' its communications so that main points from key documents are summarized with simple words and images that should be widely accessible, while the documents themselves still include enough details for experts to be able to follow the decisions and deliberations more closely. But we still have a way to go.

Second, it is hard to know how to define success. Suppose we had moved the risk of a crisis from a one in 20 year event to one in 50. How would we know that had happened? How would we know that met parliament's definition of success? And how could we begin to convince the public of that? These are well-trodden questions for macroprudential authorities but they're fundamental to the FPC's legitimacy and so worth revisiting to see if progress can be made.[16]

Finally, we have yet to be able to come up with a summary measure of financial stability risk. One of our central judgments each quarter is the assessment of the overall risk environment. It is hard to explain in simple terms to non-experts why we reach that judgment. One potentially promising development on this front is the recent research on "GDP at risk".[17] This work is too early to fully judge, but it does appear to offer one way to summarize overall risk levels.

[14] See for example Guardian (2014) "Bank of England now has the right tools to take on housing bubbles" https://www.theguardian.com/business/economics-blog/2014/oct/02/bank-of-england-tools-housing-bubbles
[15] Bank of England Annual Report 2018
[16] For example Goodhart (2011), Tucker(2011), ESRB (2011), Broadbent (2018) and others
[17] See for example Aikman et al (2018), Adrian et al (2018), Adrian et al (2017), IMF (2018) and ECB (2019)

Thank you for your attention and I welcome any questions or comments.

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Figure 1: Threats to Financial Stability

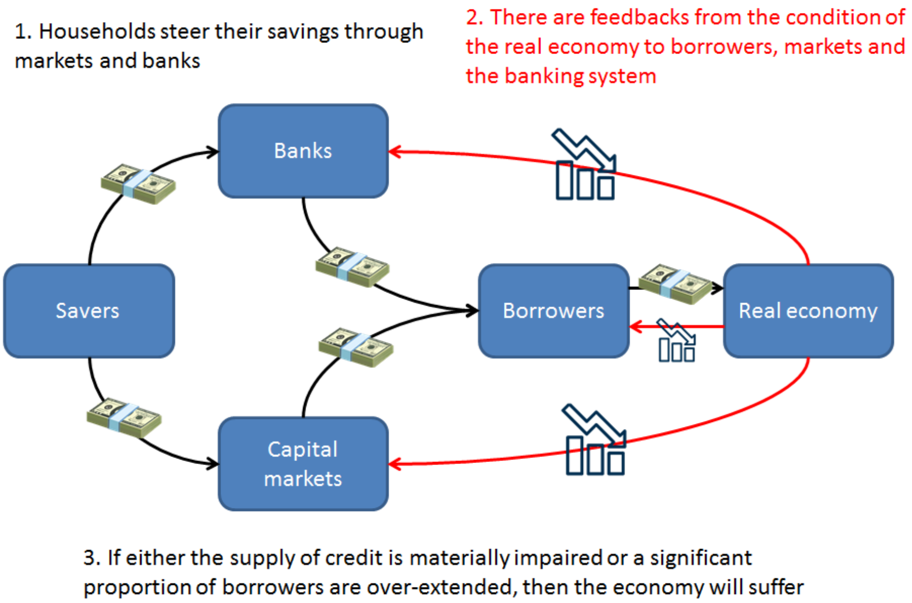
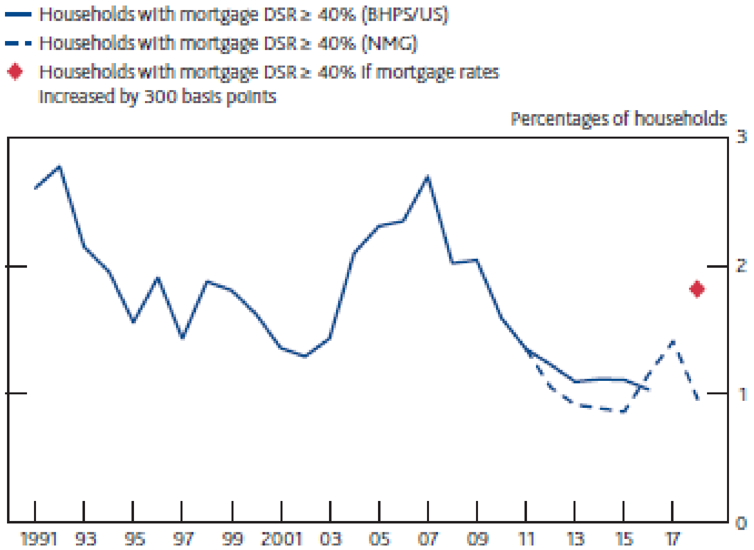


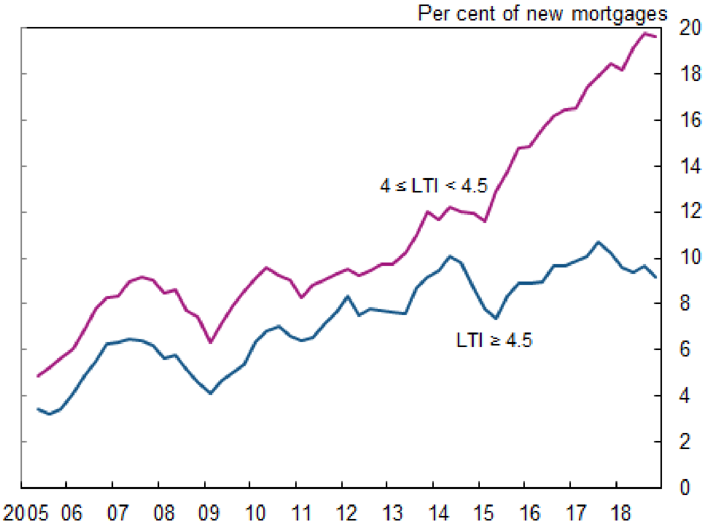
Figure 2: Proportion of households with mortgage DSRs of 40% or greater[(a)(b)(c)]



Source: November 2018 Financial Stability Report. Data from British Housing Panel Survey/Understanding Society (BHPS/US), NMG, Consulting survey and Bank calculations.

(a) Mortgage DSR calculated as total mortgage payments as a percentage of pre-tax income.
(b) The percentage of households with mortgage DSRs of 40% or greater is calculated using the NMG Consulting survey from 2011 onwards. BHPS/US are used from 1991–2011, and are provided as a comparison to the NMG Consulting survey from 2011–16.
(c) A new household income question was introduced in the NMG survey in 2015. Data from 2011 to 2014 surveys have been adjusted based on 2015 data to produce a consistent time series.

Figure 3: Loan to Income Ratios for Newly Originated Loans[(a)]



Source: November 2017 Financial Stability Report, updated for the latest data from FCA Product Sales Database.

(a) The Product Sales Database includes regulated mortgage contracts only. Loan to income ratio (LTI) calculated as loan value divided by the total reported gross income for all named borrowers. Chart excludes lifetime mortgages, advances for business purposes and remortgages with no change in amount borrowed.

Table 1: Prominent Examples of FPC Tools and Decisions

Tool type	**Date**	**Description**
Borrower Resilience	June 2014	15% LTI flow limit for owner-occupier mortgages
Borrower Resilience	June 2014	Affordability tests for mortgages
Borrower Resilience	June 2017	Update affordability tests for mortgages
Bank Resilience	Annual since 2014	Stress test scenario design
Bank Resilience	Quarterly	Set CCyB
Bank Resilience	June 2015	Introduction of a UK leverage ratio framework
Market Resilience	June 2013	Contingency planning for LIBOR and other benchmark rates disappearing
Market Resilience	March 2015	Asked the Bank and FCA address data gaps and build a common understanding of vulnerabilities in capital markets and asset management activities; report back by September
Market Resilience	June 2015	Asked the Bank, PRA and FCA to ensure firms at the core of the UK financial system, including financial market infrastructure, completed their cyber vulnerability tests and adopted resilience action plans.
Market Resilience	Semi-Annual	Financial stability report risk identification chapters
Brexit mitigants	Quarterly since 2017	Checklist laying out risks to banks, borrowers and markets