Record of the Financial Policy Committee Meetings on 22 and 27 November 2017

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This is the record of the Financial Policy Committee meetings held on 22 and 27 November 2017.

It is also available on the Internet:
http://www.bankofengland.co.uk/publications/Documents/records/fpc/pdf/2017/record1712.pdf.

The Financial Policy Committee (FPC) was established under the Bank of England Act 1998, through amendments made in the Financial Services Act 2012. The legislation establishing the FPC came into force on 1 April 2013. The objectives of the Committee are to exercise its functions with a view to contributing to the achievement by the Bank of England of its Financial Stability Objective and, subject to that, supporting the economic policy of Her Majesty's Government, including its objectives for growth and employment. The responsibility of the Committee, with regard to the Financial Stability Objective, relates primarily to 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. The FPC is a committee of the Bank of England.

The FPC's next policy meeting will be on 12 March 2018 and the record of that meeting will be published on 27 March 2018.

Record of the Financial Policy Committee meetings held on 22 and 27 November 2017

At its meetings on 22 and 27 November 2017, the Financial Policy Committee (FPC):

- Agreed that the 2017 stress test showed the UK banking system was resilient to deep simultaneous recessions in the UK and global economies, large falls in asset prices and a separate stress of misconduct costs.

- Agreed to raise the UK countercyclical capital buffer (CCyB) rate from 0.5% to 1%, with binding effect from 28 November 2018.

- Agreed to reconsider the adequacy of a 1% UK countercyclical capital buffer rate during the first half of 2018, in light of the evolution of the overall risk environment.

- Assessed the various risks of disruption to UK financial services arising from Brexit and developed a checklist so that preparations could be made and action taken to mitigate them.

- Assessed its stress test scenario against combinations of various risks that might arise from a disorderly Brexit (such as increased tariffs on trade, loss of authorisations to sell products and services, operational disruption to customs and transport infrastructure, and a decline in investor appetite for sterling assets) and concluded that the impacts of these were encompassed within the set of macroeconomic shocks in the stress test.

- Reviewed the Bank's first 'exploratory' stress test exercise, which examined major UK banks' long-term strategic responses to an extended low growth, low interest rate environment with increasing competitive pressures from financial technology (Fintech). The exploratory scenario had provided a series of insights, ranging from the development of such exercises to the possible future of banking.

- Completed its annual review of risk and regulation beyond the core banking sector, agreed not to recommend any changes to the regulatory perimeter at this stage and asked for an in-depth assessment of the use of leverage in the non-bank financial sector, focusing on leverage created through use of derivatives. It also completed its in-depth assessment of the financial stability risks associated with derivatives transactions and judged that major reforms to global over-the-counter (OTC) derivatives markets after the crisis had improved the resilience of the financial system.

- Agreed that it could consider as implemented the Recommendation that it made to the Prudential Regulation Authority (PRA) in September 2017, on excluding central bank reserves from the calculation of the leverage ratio and requiring a minimum leverage ratio of 3.25%.

1. The Committee met on 22 November 2017 to agree its view on the outlook for financial stability and, on the basis of that, its intended policy action. To do so, the FPC discussed the risks faced by the UK financial system and assessed the resilience of the system to those risks. It aims to ensure the UK financial system is resilient to, and prepared for, the wide range of risks it could face – so that the system could support the real economy, even in difficult conditions.

2. The Committee met subsequently on 27 November 2017 to confirm its response to the results of the 2017 annual cyclical scenario (ACS) stress test of the UK banking system, its setting of the UK countercyclical capital buffer rate, and its approach to the biennial exploratory scenario (BES) for the UK banking system, which the Bank had run for the first time in 2017.

Risks to UK financial stability

3. The Committee reviewed financial system and economic developments since it published its *Financial Stability Report (FSR)* in June and since its previous meeting in September, to inform its view on the current risks faced by the financial system. These would be set out in detail in the November 2017 *FSR*, and are summarised below.

Domestic credit environment

4. Credit growth was, in aggregate, only a little above nominal GDP growth. In the year to 2017 Q2, outstanding borrowing by households and non-financial businesses increased by 5.1%; in that same period, nominal GDP increased by 3.7%. Corporate and household lending had made roughly equal contributions to recent credit growth.

5. The cost of servicing debt for households and businesses was currently low. The aggregate household debt-servicing ratio – defined as interest payments plus regular mortgage principal repayments as a share of household disposable income – was 7.7%, below its average since 1987 of 9%. The share of households with very high debt-servicing ratios was also small, and the FPC had policies in place to guard against the risk of a marked loosening in underwriting standards and any significant rise in the number of highly indebted households. The ratio of non-financial businesses' interest payments to profits was 8.6%, around half its average since 1987.

6. While overall domestic credit conditions did not point to elevated risk, consumer credit had been growing rapidly. The outstanding stock of consumer credit had increased by 9.9% in the year to September 2017. As the FPC had set out in September, rapid growth of consumer credit was not, in itself, a material risk to economic growth through its effect on household spending; the flow of new consumer borrowing was equivalent to only 1.4% of consumer spending, and had made almost no contribution to the growth in aggregate consumer spending in the past year. Consumer credit could

instead pose a risk to financial stability by increasing the losses lenders incurred in an economic shock.

7. As a share of income, consumer credit was not elevated by historical standards, and defaults on consumer credit had fallen in recent years, with write-off rates falling from 5% to 2% between 2011 and 2016. This may have reflected underlying improvement in credit quality.

8. However, in September the FPC had judged that lenders overall had been attributing too much of the improvement in consumer credit performance in recent years to underlying improvement in consumer credit quality and too little to the macroeconomic environment. This had driven an expansion of the supply of credit, with, for example, lending rates on personal loans falling and promotional interest-free periods on balance transfer credit cards lengthening. As a result, the FPC had set out in September its view on the appropriate loss rate on consumer credit in the Bank's 2017 annual stress test of major UK banks – the FPC would be reviewing the overall results of the stress test at this meeting.

9. In aggregate, UK private non-financial corporations had materially reduced their indebtedness since 2009. The ratio of their outstanding debt to profits had fallen by over 100 percentage points, to 310%. Overall, the FPC judged that the risks to UK financial stability from the indebtedness of UK corporates was not elevated.

10. The overall stock of outstanding private non-financial sector debt in the real economy had fallen since prior to the crisis, though it remained high by historical standards, at around 150% of GDP. Excluding student debt, the aggregate household debt to income ratio was 18 percentage points below its 2008 peak. The United Kingdom's credit to GDP gap, which measured the difference between the ratio of credit to GDP and a simple statistical estimate of its long-term trend, remained significantly negative in 2017 Q2. This suggested risks from credit growth were very subdued. However, as the FPC had observed at previous meetings, the long-term trend on which it was based gave undue weight to the rapid build-up in credit prior to the global financial crisis.

UK external financing

11. The UK current account had been persistently in deficit since 1999. This deficit had widened substantially since 2012, reaching 4.6% of GDP in 2017 Q2. This almost entirely reflected a decline in the primary income balance, caused by weaker earnings from foreign direct investment abroad. The UK trade deficit had fluctuated around 2% of GDP since 2012, and had improved relative to the pre-crisis period.

12. Over the period 2012–15, this deficit had been financed by the sale of UK residents' overseas assets, while foreign capital was flowing out of the United Kingdom. Since the beginning of 2016, this position had reversed: foreign capital inflows had been substantial, while UK residents had been net buyers of foreign assets. This had driven renewed growth in the United Kingdom's external assets and liabilities.

13. Recent capital inflows from abroad appeared less vulnerable to reversals than flows during the run-up to the crisis. Foreign direct investment from overseas had accounted for nearly two thirds of the £378 billion in gross capital inflows since the beginning of 2016. This was in contrast to the pre-crisis period, when the majority of foreign capital inflows had been composed of short-term bank liabilities. In addition, much of the debt issued in the UK was long-maturity, and therefore less prone to refinancing risk in the event of a shock.

14. Demand for most UK asset classes had been broadly stable over the past year. Estimates of the gilt term premium remained below historical averages, as had spreads on UK corporate bonds. Overseas investors' purchases of gilts had held up since mid-2016, and there had been little market reaction to Moody's downgrade of the UK Government's credit rating in September. Following a 12% fall in the period after the EU referendum, the sterling exchange rate had been broadly stable during 2017. Overseas investor transactions in UK commercial real estate, which had fallen sharply in the months leading up to the referendum, had partly recovered. Non-residents' purchases of FTSE 100 shares had also recovered from their trough in 2016 Q2.

15. There was recent evidence, however, that investor appetite for UK-focused equities may be declining. The UK equity risk premium had not declined in line with equivalent measures for euro-area and US equities. Some market contacts had highlighted uncertainty about the United Kingdom's future trading relationship with the European Union as a particular concern. A net balance of 37% of respondents to the November Bank of America Merrill Lynch Global Fund Manager survey had reported that they were underweight UK equities, compared with an average since 1999 of 12%.

Asset valuations

16. Global long-term real interest rates remained close to historically low levels. In part, this reflected the influence of structural factors, such as shifts in demographics. It also reflected perceptions that inflation would remain subdued even with sustained, if moderate, global economic growth. Estimates of term premia appeared compressed compared to pre-crisis levels.

17. Market-based measures of perceived risks in the near term derived from option prices had been low by historical standards across a number of markets. For example, the MOVE index, a measure of implied US bond market volatility, was at an all-time low. In November, the VIX measure

of implied US equity market volatility, derived from option prices on the S&P 500 stock index, also fell to historical lows. According to market contacts, there had been an increase in recent years in the use by investors (including non-banks) of strategies that sold insurance against a rise in volatility, for which they received a premium.

18. There was a risk that investors were placing excessive weight on recent benign economic and market conditions. If so, this could lead to an underestimation of risks, underpinning investors' risk appetite and potentially building up risks and fragilities in the financial system.

19. In corporate bond markets, spreads were at levels comparable with those seen before the financial crisis, with high-yield more compressed, compared to historical levels, than investment-grade spreads. This compression in spreads had been accompanied by increased corporate financial leverage, especially in the United States. Non-price terms for corporate borrowing had also eased, as investors searched for yield in a low interest rate and low volatility environment, and were willing to accept lower compensation for the risks taken. One example was weaker financial covenants in high-yield markets. According to market contacts, this trend had been particularly stark in leveraged loan markets, in which covenant-lite debt was increasingly becoming the norm.

20. Some international equity prices had risen further since the June *FSR*, and US equity indices had continued to reach new highs. Equity risk premia for US and euro-area markets were close to their lowest levels in ten years.

21. In the United Kingdom, the risk of weak output growth in the near term was perceived to be high. This was thought to be part of the reason that risk-free rates in the United Kingdom had fallen more relative to those in other major economies since mid-2016. Consistent with this, estimates of equity risk premia for an index of UK-focused companies — those for which at least 70% of revenue is earned in the United Kingdom — had been broadly flat since the EU referendum, in contrast to the falls in equity risk premia for the S&P 500 index and Euro Stoxx index.

22. In line with the global corporate bond market, sterling corporate bond spreads had fallen over the past couple of years and appeared compressed by historical standards. In part this may have reflected the international nature of many firms issuing sterling corporate bonds, as well as the impact of the Bank's Corporate Bond Purchase Scheme. Adjusting for issuer quality, sterling investment-grade corporate bond spreads were at similar levels to those seen before the financial crisis. Spreads of high-yield sterling bonds, which were more likely to be issued by domestically focused firms, were also low by historical standards.

23. Valuations in some segments of the UK commercial real estate sector continued to appear stretched. Current prices were at the top end of the range of estimated sustainable valuation levels.

Some segments of the CRE market appeared more stretched than the aggregate picture. For example, current London West End office prices were well above the range of estimated sustainable valuation levels.

24. Overall, the FPC continued to emphasise the importance of market participants recognising the distribution of risks in different asset classes, managing them prudently, and pricing them accordingly.

Global debt vulnerabilities

25. Near-term prospects for the global economy had continued to strengthen. In October, the IMF had revised up its forecast for world GDP growth from 3.5% to 3.6% in 2017. Upward revisions had been broad-based in the euro area, Japan, China, emerging Europe and Russia. The Monetary Policy Committee's (MPC) expectation was for global GDP growth to remain strong relative to recent history.

26. Despite the continued strength of the global macroeconomic outlook, vulnerabilities in some financial systems and markets remained material, reflecting rising non-financial sector debt as a share of GDP in several major economies since the 2008 global financial crisis. In particular, private non-financial sector debt to GDP ratios had increased further in emerging economies over that period, driven largely by China. China's private non-financial sector debt to GDP ratio already stood at 211%, having risen around 60 percentage points in the past five years. Risks associated with this expansion in credit could be amplified by the Chinese financial sector, which had become increasingly complex since the 2008 global financial crisis. Over the period, small and mid-sized banks had doubled in asset size as a share of GDP and had become more reliant on wholesale funding, and shadow banking activities had expanded. This could increase the risk of contagion within the Chinese financial system in the event of a shock.

27. In the United States, overall private non-financial sector debt had continued to grow broadly in line with GDP. There were some signs of debt vulnerabilities rising in the US corporate sector, however. The ratio of net debt to net operating surplus plus depreciation had risen to 2.1 from 1.8 in 2014 Q3. In particular, corporate real estate loans as a share of GDP increased further in 2017 Q2, approaching pre-crisis levels. Higher corporate debt had also led to a rise in the cost of servicing this debt since 2014 – although the debt-servicing ratio was still below its pre-crisis average. Overall, UK banks' exposures to the United States accounted for around 250% of common equity Tier 1 (CET1), including claims of around 17% of CET1 on US banks.

28. Public debt remained elevated in several euro-area economies. For example, in 2016, it was above 130% of GDP in both Italy and Portugal. In the private sector, banks' non-performing loan

(NPLs) ratios had fallen further in 2017 Q2 in most euro-area countries. However, risks varied across banking sectors, with Italian and Portuguese banks continuing to experience high legacy NPL ratios.

Resilience of the banking system – 2017 annual stress test of the UK banking system

29. As part of assessing the resilience of the UK banking system to these risks, the FPC reviewed the results of the 2017 ACS stress test. The test covered seven major UK banks and building societies, accounting for around 80% of PRA-regulated banks' lending to the UK economy.

30. The scenario for the stress test had been set in March 2017 and had been calibrated to reflect the FPC's, and the PRC's, assessment of risks. At that time, the FPC had judged that domestic risks were at a standard level overall, while global vulnerabilities were elevated and had increased somewhat over the past year. The stress test worked by assuming that the risks that the Committees had identified crystallised. The projected losses in the stress test provide an indication of the size of the capital buffers necessary for banks to withstand that shock.

31. As a way of comparing the severity of the scenario to previous shocks, the Committee noted that, overall, the economic scenario in the test was more severe than the global financial crisis. The fall in UK GDP in the scenario was smaller than in the financial crisis, but the increase in unemployment was larger and there was a bigger fall in UK residential property prices. The fall in world GDP of 2.4% was larger than the 1.9% fall in the financial crisis. The stress test scenario also included a sharp rise in Bank Rate, triggered by a sudden increase in the return investors demand for holding sterling assets and an associated fall in sterling.

32. As in previous years, the scenario also incorporated a traded risk scenario designed to be congruent with the macroeconomic assumptions. And there were stressed projections, generated by Bank staff, for potential misconduct costs beyond those paid or provided for at the end of 2016.

33. Performance in the test would be assessed against the Bank's hurdle rate framework. As with the 2016 ACS, the CET1 capital ratio hurdle rate framework had two elements. First, a hurdle rate equal to the sum of the internationally agreed common minimum standard for CET1 (4.5% of risk weighted assets (RWAs)) and any Pillar 2A CET1 uplift set by the PRA, which varied across banks. The weighted average of this hurdle was 6.7%. Second, a 'systemic reference point', which held banks designated as global systemically important banks (G-SIIs) to a higher standard. The weighted average systemic reference point was 7.7% at the low point of the stress in 2018. The process of phasing in banks' G-SII capital buffers meant the capital standards against which banks subject to a systemic reference point were judged was 0.4 percentage points higher than it was in the 2016 test.

34. The leverage hurdle rate reflected the minimum requirement of 3.25% (of exposures excluding central bank reserves). The systemic reference point added in any relevant G-SII leverage buffer, calculated as 35% of any corresponding risk-weighted capital buffer.

35. As would be set out in full in *Stress testing the UK banking system: 2017 results*, banks incurred losses of around £50 billion in the first two years of the stress test. This scale of loss, relative to their total assets, would have wiped out the common equity capital base of the banking system ten years ago. It incorporated the judgements on the appropriate loss rate for consumer credit in the stress test that the FPC had agreed in September, based on its analysis of the possible financial stability risks from the recent rapid growth in that sector.

36. The stress test showed these losses could now be absorbed within the buffers of capital banks had on top of their minimum requirements. Major UK banks' capital strength had tripled since 2007. Banks had started the test with – in aggregate – a Tier 1 leverage ratio of 5.4% and a Tier 1 risk-weighted capital ratio of 16.4%. The aggregate CET1 ratio was 13.4%. Even after the severe losses in the test scenario, the participating banks would, in aggregate, have a leverage ratio of 4.3%, a CET1 capital ratio of 8.3% and a Tier 1 capital ratio of 10.3%.

37. This meant that banks in aggregate cleared the aggregate CET1 capital and leverage ratio systemic reference points by 0.6pp and 0.7pp respectively. They did this while continuing to lend to the UK real economy in accordance with the lending paths set out in the scenario.

38. The results differed substantially across banks, however. Based on their end-2016 capital positions, which was the cut-off date of data used in the stress test, Barclays and RBS did not meet their CET1 capital ratio systemic reference points. Barclays also fell marginally below its Tier 1 leverage ratio systemic reference point. Barclays and RBS had significantly improved their capital positions since the end of 2016. If the test were run on the basis of their latest capital positions, both banks would meet their CET1 capital and Tier 1 leverage systemic reference points. The FPC was informed that the PRC had therefore judged that all seven participating banks now had sufficient capital to meet the standard set by the test. No bank needed to strengthen its capital position as a result of the stress test, for the first time since the Bank of England had launched its stress tests in 2014.

39. The FPC noted that banks would cut dividends in the stress test. This, and the mandatory restrictions on dividend payments under CRDIV, showed that investors should expect a material cut in dividends in the event that a stress were to materialise.

40. Based on these results, the FPC judged that the 2017 stress test showed the UK banking system was resilient to deep simultaneous recessions in the UK and global economies, large falls in asset prices and a separate stress of misconduct costs.

Risk overview and UK CCyB rate decision

41. In the FPC's view, the risks to financial stability remained broadly unchanged. It judged that, apart from those related to Brexit, domestic risks were still at a standard level overall. Within the standard environment, there were particular risks that the Committee had discussed earlier and where they had previously taken action: the rapid growth in consumer credit, where the FPC had made its judgement in September on the loss rate for use in the 2017 stress test; and the FPC's existing policy action in the owner-occupied mortgage market to guard against a marked loosening in underwriting standards and a further increase in the number of highly indebted households. The Committee also judged that risks from global debt levels and asset valuations remained material and risks from misconduct costs also remained material.

42. The FPC considered the appropriate setting for the UK CCyB rate, in light of this outlook and the ACS results.

43. When it had published its strategy for setting the CCyB in December 2015, the Committee had agreed that it expected to set the CCyB in the region of 1% in a standard risk environment, and that it expected to vary the CCyB rate gradually. Its view had been that a measured approach to increasing the CCyB was likely to reduce the likelihood that banks would adjust by tightening credit conditions, thereby decreasing the cost to the economy of making the banking system more resilient.

44. Consistent with this strategy, and its assessment that overall risks from the domestic environment were at a standard level, the FPC had agreed in June to increase the UK CCyB rate from 0% to 0.5% with binding effect from 27 June 2018. It had also signalled that it expected to increase the rate to 1% at its November meeting, absent a material change in the risk outlook. It had reaffirmed this expectation at its meeting in September.

45. The ACS results gave the FPC an updated indication of the risks to banks' capital from this overall risk environment. The UK economic shock in the scenario had, in aggregate, reduced banks' capital by around 3.5% of their relevant UK risk-weighted assets. Based on a fully-phased in capital conservation buffer of 2.5%, this suggested that a UK CCyB rate in the region of 1% would deliver a sufficient regulatory buffer for the banking system to absorb a domestic stress of the severity embodied in the test.

46. In June, the Committee had recognised that the current risk environment was particularly unusual given the UK's forthcoming exit from the European Union. The FPC and MPC had subsequently had a joint discussion of the channels through which adverse economic shocks could arise as the United Kingdom withdrew from the European Union. There were many possible risks that could arise. The scale and probability of the risks would depend not just on the nature of the new relationship with the EU and the transition to it, but also on many other factors, including the extent of contingency planning and government policies in the United Kingdom and European Union.

47. Consistent with its remit, the FPC focused on combinations of risks that, even though they were unlikely to occur, could have most impact on financial stability. In that context, the FPC considered the particular risks that could arise if the UK's relationship with the EU were to move abruptly to default World Trade Organisation (WTO) rules and before any agreement on changes in trade relationships with other countries.

48. Any move to default WTO rules could bring in tariffs on UK-EU trade in goods and could result in changes on the tariffs applied to goods trade with the rest of the world. A wide range of regulatory authorisations to sell products and services between the United Kingdom and European Union could be lost, resulting in a larger reduction in trade than from tariffs alone. Abrupt falls in trade could in turn drag on productivity, as currently integrated supply chains were re-orientated, weighing on corporate profits and real incomes. Disruption to trade in financial services could affect the functioning of financial markets, such as those for derivatives, in both the United Kingdom and European Union, disrupting the provision of financial services to the UK and EU economies.

49. A sudden change in the UK-EU relationship could also bring logistical challenges, including the additional demands placed on customs infrastructure and the potential for disruption to cross-border transport services. Flows of migration into the UK could fall if conditions in the UK labour market deteriorated relative to those in Europe, if the currency depreciated or if new restrictions on the movement of labour were introduced.

50. Reflecting its remit, the FPC considered how particularly adverse – and therefore highly unlikely – combinations of these risks would compare to the macroeconomic outcomes embodied in the annual stress test scenario, against which banks' resilience had been tested.

51. The stress test scenario already featured a sudden reduction in investor appetite for UK assets and the sterling exchange rate falling to its lowest ever level against the dollar. Bank Rate rose to 4%, UK GDP fell by 4.7% and unemployment rose by more than in the financial crisis. UK commercial property prices fell by 40%, and UK residential property prices fell by 33% – the largest fall on record.

52. The Committee noted that even particularly adverse combinations of the risks that could be associated with Brexit would be encompassed by this scenario.

53. The precise shape of the macroeconomic outcomes arising from some combinations of risks triggered by a sudden exit from the EU might differ from those in the 2017 stress test scenario. However, the FPC judged that even particularly adverse combinations would, overall, result in no greater an impact on the core banking system than the stress test scenario had done and to which banks had proved resilient. The FPC recognised that there were different approaches to considering combinations of risks and would continue to monitor the risks from Brexit as they evolved and assess these from a variety of angles.

54. As a result of its review of the risks, the FPC judged that the extent of the stress test scenario meant that it encompassed a wide range of UK macroeconomic risks that could be associated with Brexit. Given the results of the ACS, the FPC judged the UK banking system could continue to support the real economy through a disorderly Brexit. It noted that major UK banks' Tier 1 capital ratio was in aggregate 16.7% in September 2017.

55. However, in the FPC's view, the combination of a disorderly Brexit and a severe global recession and stressed misconduct costs could result in more severe conditions than in the stress test. In such circumstances, capital buffers would be drawn down substantially more than in the stress test and, as a result, banks would be more likely to restrict lending to the real economy. The Committee noted that the final figures in the stress test were the result of netting large losses on loan books against large increases in income in a rising interest rate environment.

56. The Committee therefore debated the merits of increasing the UK CCyB rate above 1% at this juncture.

57. On the one hand, there were clear benefits to requiring banks to maintain additional capital: it would provide greater assurance that the banking system had the resilience and lending capacity required given the full range of risks it faced.

58. On the other hand, the likelihood of a disorderly Brexit occurring in combination with both a severe global recession and very substantial additional conduct costs (as in the stress test) could be seen as extremely remote; if that were the case, the potential economic costs to ensuring the banking system was resilient to this combination of risks could exceed the benefits. An increase in the UK CCyB rate above 1% would also be a surprise for banks and market participants, given the Committee's previous communications. This could undermine the effectiveness of future communications, and the FPC recognised the benefits of acting in a predictable manner. Given that it had increased the CCyB in steps of 50 basis points to date, consistent with its stated desire to act

gradually, an increase to a UK CCyB rate above 1% could be seen as a break from this reaction function. However, as the FPC had stated previously, a staged approach would not bind its discretion to increase the CCyB in larger increments if the risk outlook warranted such action.

59. Taking these considerations together, the Committee agreed to raise the UK CCyB rate from 0.5% to 1%, with binding effect from 28 November 2018, consistent with its previous guidance for a standard risk environment. This would establish a system-wide UK CCyB in total of £11.4 billion. The increase in the CCyB rate would also lead to a proportional increase in major UK banks' leverage requirements via the countercyclical leverage buffer.

60. This setting of the CCyB, and the setting of the capital buffers for individual banks that would be set by the PRC in light of the stress test results, would not require banks to strengthen their capital positions. It would require them to incorporate some of the capital they currently had in excess of their regulatory requirements into their regulatory capital buffers. The purpose of these buffers was to be drawn on as necessary to allow banks to support the real economy in a downturn. The FPC stood ready to reduce the UK CCyB rate, as it had in July 2016, if a risk materialised that could lead to a material tightening of lending conditions.

61. The FPC agreed that, when making its decisions on the UK CCyB rate during the first half of 2018, it would reconsider the adequacy of a 1% UK CCyB rate in light of the evolution of the overall risk environment.

Risks of disruption to UK financial services arising from Brexit

62. In addition to the possible macroeconomic shocks, Brexit could also affect financial stability through the direct effects on the provision of financial services by the financial system. The FPC continued to assess the risks of disruption to UK financial services arising from Brexit so that preparations could be made and action taken to mitigate them.

63. The Government had confirmed its intention to ensure that the United Kingdom would cease to be a member of the European Union on 29 March 2019. It was seeking to negotiate a new economic partnership with the European Union, with an implementation period lasting around two years from exit day.

64. There were a range of possible outcomes for the future UK-EU relationship. Consistent with its remit, the FPC was focused on scenarios that, even if the least likely to occur, could have most impact on UK financial stability. This included scenarios in which there was no agreement in place at exit.

65. As it had set out in the June *FSR*, ensuring a UK legal and regulatory framework for financial services was in place was essential to financial stability. Much of the UK legal and regulatory framework for financial services was derived from EU law. Directly applicable EU law would need to be brought into UK law. The Government was planning to achieve this with the EU Withdrawal Bill and related secondary legislation.

66. Certain provisions of EU law would need to be adapted when brought into UK law in order to ensure that they operated effectively, achieved legal certainty and reflected the new relationship between the United Kingdom and the European Union. The extent and nature of the changes required before exit would depend on the terms of any withdrawal agreement, in particular the terms of any implementation period. Changes would be particularly important should there be no withdrawal agreement with the European Union that provided for an implementation period.

67. For example – EU law that would be nationalised in the EU Withdrawal Bill:

- Provided that certain regulatory functions are to be carried out by EU authorities rather than UK authorities. For example, EU authorities supervised credit rating agencies and EU authorities approved certain macroprudential measures.
- Distinguished between European Economic Area (EEA) and rest of world exposures in the capital framework.

68. The Bank and FCA were providing technical advice to HM Treasury to support it in its development of subordinate legislation pursuant to the Bill. The FPC would monitor the progress of the Bill and associated subordinate legislation.

69. As also set out in June, without a bespoke agreement, UK financial companies may no longer be able to provide services to customers in the EEA – and vice versa – in the same way as they did today, and in some cases not at all.

70. A withdrawal of permissions to conduct cross-border business following Brexit could impair financial companies' ability to perform or service outstanding financial contracts. Though a wide range of financial contracts could be affected, the largest identified risks were around OTC derivative and insurance contracts.

71. To preserve continuity of existing cross-border insurance and derivatives contracts, UK and EU legislation would be required. The estimates presented to the Committee were that six million UK policy holders, 30 million EEA policy holders, and around £26 trillion of outstanding uncleared derivatives contracts could otherwise be affected. Effective mitigation of the risk to derivative contracts, other than through a bilateral agreement, would require EEA states to legislate to protect

the long-term servicing of existing contracts with UK counterparties and the UK government to legislate to protect the long-term servicing of contracts with EEA counterparties. For insurance contracts the UK government could legislate to ensure that EEA insurers continued to have the permissions necessary to collect premiums and pay out on claims on existing contracts in the United Kingdom. The HM Treasury representative told the Committee that HM Treasury was considering all options for mitigating risks to the continuity of outstanding cross-border financial services contracts.

72. EEA-incorporated banks that operated in the United Kingdom as branches would need authorisation to operate in the United Kingdom. To maintain financial stability, the conditions for authorisation, particularly for systemic entities, would depend on the degree of co-operation established between regulatory authorities. The Committee was informed that the PRA planned to set out its approach to authorisations before the end of the year.

73. In the absence of an agreement, UK central counterparties (CCPs) would be able to serve EEA customers after exit only if they were 'recognised' by the European Securities and Markets Authority. EEA, and rest of world, CCPs would also need recognition in order to serve UK customers. The Committee was informed that the UK authorities would clarify their approach to this in due course.

74. The ability of asset managers to conduct business could be impaired by any potential restrictions on cross-border delegation of collective portfolio management or outsourcing. This was currently a very widespread international practice. Estimates suggested over twenty per cent of assets of funds located in non-UK EEA countries were managed in countries outside the EEA and United Kingdom. An estimated further 10% of assets of funds located in non-UK EEA countries were managed in the United Kingdom. Restrictions on delegation or outsourcing could require disruptive changes to asset managers' business models.

75. Overall, the FPC judged that Brexit posed material risks to the provision of financial services to customers in both the United Kingdom and European Union. It would be difficult, ahead of March 2019, for financial companies on their own to mitigate fully the risks of disruption to financial services. Timely agreement on an implementation period would reduce risks to financial stability.

76. As the FPC had set out previously, irrespective of the particular form of the United Kingdom's future relationship with the European Union, and consistent with its statutory responsibility, the FPC would remain committed to the implementation of robust prudential standards in the United Kingdom. This would require maintaining a level of resilience that was at least as great as that currently planned, which itself exceeded that required by international baseline standards.

Biennial Exploratory Scenario

77. The resilience of the banking system to future shocks did not only depend on current capital resources, but also on the sustainability of banks' business models. As part of the Bank's first BES within its stress test framework, the FPC reviewed the results of examining major UK banks' long-term strategic responses to an extended low growth, low interest rate environment with increasing competitive pressures from FinTech. The exercise was designed to encourage banks to think about their strategic challenges. It was not designed to inform the FPC and PRC about the immediate capital adequacy of participants.

78. The Committee observed that in aggregate, participating banks projected that they could adapt to a low rate, low growth macroeconomic environment without major strategic change or taking on more risk.

79. Although this was positive, the FPC discussed that there were a number of clear risks around firms' projections.

80. First, it was not clear that the projections had fully reflected the range of potential impacts of FinTech. Innovation in FinTech was opening up new opportunities for consumers, banks and other businesses, as evidenced by the proliferation of new FinTech start-ups. For consumers, the increased use of FinTech to deliver financial services was likely to offer better information and access to services as well as more competitive pricing. FinTech also potentially offered small and medium-sized enterprises (SMEs) the chance to tap new sources of credit through, for example, peer-to-peer lending platforms.

81. New technologies might also have profound consequences for incumbent banks' business models. On the one hand, FinTech could allow banks to achieve meaningful cost savings. On the other hand, FinTech, and in particular the emergence of Open Banking, might cause greater and faster disruption to banks' business models than banks had projected. The cost of maintaining and acquiring customers in a more competitive environment might reduce the scope for cost reductions or result in greater loss of market share.

82. The Committee noted that some aspects of FinTech could also expose banks to additional liquidity and operational risk. For example, the 'Payment Services Directive 2' would allow customers to use regulated third party platforms to monitor multiple bank accounts and initiate payments. This could make retail deposits a less stable source of funding, and could increase cyber risks by creating a greater number of avenues for potential cyber threats. Before new service providers were authorised, the FCA would look at applicants' security policies, governance, business continuity arrangements and controls around access to sensitive data.

83. Second, the FPC considered whether the cost-to-income ratios that banks expected to achieve over the BES's horizon were overly optimistic. Banks considered that they could more than offset a squeeze in net interest margins by reducing costs, including by relying on new technology. The Committee observed there was a risk that banks would be unable to execute these plans fully. The assumed cuts would bring banks' aggregate ratio of costs-to-income below pre-financial crisis levels, and raised the question why banks had not already made all available cuts. At the same time, the assumptions were consistent with cost-to-income ratios observed in some other countries.

84. Third, the Committee discussed firms' assumptions regarding the return on equity that investors would expect to receive in such a scenario. Banks' projections suggested that they expected their cost of equity to be around 8% on average by 2023 in the exploratory scenario, compared to 8.7% in 2016. The FPC noted that the 2016 estimates were at the lower end of the ranges estimated by the Bank of England and IMF (as would be set out in the Bank's 2017 stress testing results publication).

85. The cost of equity could be decomposed into a risk-free rate, a market-wide equity risk premium, and bank-specific risk premia. The risk-free rate and the equity risk premium in the exploratory scenario had been specified by the Bank. However, the equity risk premium was uncertain and could be higher than that specified. In a low growth, low interest rate environment, investors might perceive downside economic risks to be greater, raising the equity risk premium.

86. Bank-specific risk premia had been estimated by banks themselves. Overall, banks had assumed that these risk premia would decline over the scenario horizon. This was consistent with the increase in banks' capital ratios in the scenario. Higher capital ratios made the returns that a shareholder could expect to receive less uncertain and should reduce therefore the cost of equity. However, bank-specific risk premia also depended on the nature of banks' assets and liabilities, and the volatility of the associated cash flows. These could be affected by a number of factors, including misconduct costs, FinTech, and the stability of banks' deposit funding. Competition from new FinTech firms could turn some banks into low-risk 'utilities' with a low cost of equity, while banks that embraced new technologies might see additional earnings volatility and higher costs of equity. FinTech might also increase all banks' cost of equity by exposing them to additional cyber risk.

87. In light of these factors, the FPC concluded that the cost of equity for banks might be higher than the 8% level they expected in this scenario. This could put additional pressures on banks' business models if such a scenario were to materialise.

88. The FPC agreed that the exploratory scenario had provided a series of insights, ranging from the development of such exercises to the possible future of banking. It would engage in further work to consider the results of the BES in the context of risks from a persistently low interest rate

environment for banks, other financial institutions and the real economy more broadly. The Committee was informed that supervisors would now discuss the results of the exercise with banks, including the potential implications of these risks.

Resilience of market-based finance

89. Financial stability also depended on the resilience of market-based finance – the system of markets, non-bank financial institutions and infrastructure that provide financial services to support the real economy.

90. Since 2014, the FPC had augmented its rolling programme of in-depth assessments on specific activities outside of the core banking sector with an overall annual review. At its meeting, it considered the results of its most recent in-depth assessment, on the financial stability risks associated with derivatives transactions, and its annual review for 2017.

91. This was the FPC's fourth assessment of a particular aspect of the non-bank financial system. Previous assessments had covered the activities of open-ended investment funds (set out in the December 2015 *FSR*), developments in the liquidity of some core financial markets (July 2016 *FSR*), and insurers' investment behaviour (November 2016 *FSR*).

Assessment of post-crisis reforms to derivatives markets

92. The aim of the FPC's in-depth assessment of derivatives markets was to examine progress in implementing the G20-led post-crisis reforms of OTC derivatives markets, and consider the implications for the resilience of the financial system.

93. Globally, the rate of collateralisation of OTC derivatives exposures had increased, and so over US$1 trillion more collateral (or 'margin') had been held against OTC derivatives exposures at end-2014 compared to end-2006, according to industry estimates. Dealers' capital requirements had also increased significantly since the crisis. The FPC noted that new trade repository data had enhanced UK authorities' ability to monitor derivatives exposures. However, authorities lacked a global view of global derivatives markets – at the moment, many authorities could only access data in local trade repositories.

94. Promoting greater central clearing in OTC derivatives markets had been a key aspect of post-crisis reforms, in order to make the network more resilient under stress. Greater central clearing helped reduce aggregate counterparty credit risk. The percentage of outstanding single-currency OTC interest rate derivatives globally that were centrally cleared had increased from an estimated 24% at end-2008 to at least 62% at end-June 2017.

95. It could, in theory, also create ‘single points of failure’. But such concerns had to be seen in the context of reforms that had made CCPs much more resilient. The most significant global CCPs were now expected to maintain sufficient pre-funded resources to meet the losses that could arise from the default of their two largest clearing members in extreme but plausible market conditions. The FPC judged that, in light of these factors, the benefits of greater central clearing therefore outweighed potential drawbacks. It was still important that authorities globally finalise and implement standards for CCP resolution; the Committee would receive regular updates on progress.

96. The netting efficiency of central clearing also reduced the cost of providing hedging services to the real economy relative to an equally-resilient uncleared network. However, as the FPC had observed in July 2016, in some cases central clearing might still be discouraged by the treatment of clients’ initial margins in banks’ leverage ratio requirements. It reiterated that refinements to the leverage ratio’s total exposure measure could, without compromising resilience, further support the availability and affordability of central clearing and could reduce the cost of hedging services to the real economy.

97. The FPC noted that not all OTC derivatives products were suitable for central clearing, and that there would be risks from CCPs clearing unsuitable products. This was because central clearing required an adequate degree of standardisation and market liquidity to allow a CCP to manage effectively the risks it was exposed to. At the same time, bank capital requirements and mandatory margin requirements addressed the systemic risk posed by uncleared derivatives. The FPC judged that it would therefore be inappropriate to subject all types of OTC derivatives to clearing obligations.

98. Overall, the FPC judged that the reforms to global OTC derivatives markets had improved the resilience of the financial system and its ability to serve the real economy. More remained to be done. In particular, reforms to transparency had further to go, in order to enhance the benefits of derivatives reform.

Wider review of risks and regulation beyond the core banking sector

99. The FPC considered other activities beyond the core banking sector that could potentially cause or amplify shocks to the UK real economy. To do so, it focused on possible transmission channels and the extent to which these were combined with sources of fragility such as leverage and such as liquidity or maturity mismatch between assets and liabilities. The Committee also took into account the extent to which vulnerabilities were already being addressed by domestic and international workstreams. If it deemed necessary, in line with its objectives, the FPC had a power to make Recommendations to HM Treasury on the scope of regulated activities and on the allocation of regulated activities between the PRA and FCA.

100. The FPC agreed that it was not necessary to recommend any changes to the regulatory perimeter at this stage. However, as would be set out in detail in the November 2017 *FSR*, given the continued fast growth and signs of evolution in a number of areas the FPC would continue to monitor risks to the provision of market-based finance from the growth of electronic and algorithmic trading, as well as developments in exchange-traded funds, peer-to-peer lending, and financial technology innovation.

101. The Committee identified leverage in non-banks as a cross-cutting issue that could potentially increase the fragility of different types of non-banks, and that could affect the transmission of shocks to the wider financial system. Leverage allowed a financial institution to increase its exposure to a risk factor (eg asset prices or interest rates) beyond what would be possible through a direct investment of its own funds in the underlying risk factor or instrument.

102. Measuring leverage in non-banks was challenging for a number of reasons, including because it was often created synthetically via derivatives exposures. The Committee noted that the trade repository data on derivatives transactions were a rich source of information of non-banks' open derivatives positions. But it also noted that staff should identify sources of data that were instrumental to determining leverage and assess the costs and benefits of collecting those data.

103. Consistent with that, the FPC asked for an in-depth assessment of the use of leverage in the non-bank financial sector, focusing on leverage created through use of derivatives. The Committee noted that the way in which leverage in non-banks (together with liquidity transformation) contributed to the transmission of shocks to other parts of the financial system would also be assessed as part of the Bank's work on developing a system-wide stress simulation.

Regular reviews

Existing recommendations

104. *Leverage ratio (17/Q3/1)*: In September, following previous action in July 2016 and a subsequent public consultation, the FPC had recommended to the PRA to exclude central bank reserves from the calculations used in its leverage ratio framework, and to set the minimum leverage requirement at 3.25%.[1] The PRC had consulted alongside the FPC on how it would implement this Recommendation, and its new rules had been published and had become effective on 3 October.[2] The FPC agreed that it could therefore consider the Recommendation as implemented.

[1] Records of the FPC meetings on 25 July 2016, 21 June 2017, and 20 September 2017.
[2] http://www.bankofengland.co.uk/pra/Pages/publications/ps/2017/ps2117.aspx

Review of redacted text

105. As part of its work to assess the potential disruption to the provision of financial services from the UK's withdrawal from the European Union, the FPC, in the run up to its September meeting, had been briefed on early estimates of the number of policyholders that would be affected if insurers lost the permission required to collect premiums and pay out on claims on outstanding cross-border insurance contracts.

106. The FPC had been briefed that, to mitigate these risks, firms were planning either to secure new authorisations for existing entities or transfer contracts to a new entity with the correct permissions. The UK process of transferring insurance contracts relied on a court procedure that could take 12-18 months; given the volume of these applications was expected to be three to five times the normal level, there was a risk that transfers would not be completed in time. The PRA and FCA had been working to ensure that firms' plans were as robust as possible, and the Bank had written to the High Court to alert them to the potential for increased applications. The Bank had also discussed the risks in this area with HM Treasury. HM Treasury, the PRA and the FCA were drawing up options to protect UK policyholders, some of which may require legislation and in some cases cooperation with the EU.

107. At the time of the Committee's Q3 policy meeting, work had been underway, but not yet finalised, by HM Treasury, the PRA and FCA on options to provide a solution to protect UK policyholders, where this could be achieved by unilateral action from UK authorities. The FPC had judged that additional disclosures at that stage were against the public interest as it could prompt policyholders to take costly and potentially unnecessary actions to safeguard the future continuity of their contracts. It had therefore decided, under section 9U of the Bank of England Act 1998, to defer publication of details of both the estimates and the work underway from the Record of its Q3 meeting.

108. Since the Q3 meeting, HM Treasury had worked further on options to preserve the continuity of insurance contracts and, as the FPC had earlier discussed, had informed the Committee that they were considering all options for mitigating risks to the continuity of outstanding cross-border financial services contracts. In light of this commitment, the Committee judged that the risks of prompting unnecessary action by policyholders had reduced and agreed that the publication of its Q3 discussion on the risk of a discontinuity in insurance contracts could now be published.

109. The FPC discussed whether it was appropriate to publish now details of its earlier discussions on potential scenarios of macroeconomic impacts of leaving the EU without a deal, given its assessment at this meeting of the ACS scenario against various combinations of the potential risks in a disorderly Brexit. There continued to be a risk that publishing this earlier material could undermine negotiations between the United Kingdom and the European Union – which, given the benefit of an

orderly transition, would be at odds with financial stability. Given the uncertainty around the estimates, a suggestion of apparently precise scenarios could be misleading and liable to misinterpretation. The FPC therefore agreed that it remained against the public interest to publish details of its discussions in previous meetings. It considered that by making public its judgement that a disorderly Brexit was encompassed by the stress test, it had fulfilled its statutory obligations at this juncture.[3]

[3] The text in this paragraph was omitted from the version of the Record that was initially published on 5 December 2017. The Committee agreed at its 20 November 2018 meeting to publish this text, for the reasons set out in the Record of that meeting.

The following members of the Committee were present:

Mark Carney, Governor
Jon Cunliffe, Deputy Governor responsible for financial stability
Ben Broadbent, Deputy Governor responsible for monetary policy
Dave Ramsden, Deputy Governor responsible for markets and banking
Sam Woods, Deputy Governor responsible for prudential regulation
Alex Brazier
Anil Kashyap
Donald Kohn
Richard Sharp
Martin Taylor
Andrew Bailey, Chief Executive of the Financial Conduct Authority
Charles Roxburgh attended as the Treasury member in a non-voting capacity.

The FPC took its decisions at its meeting on 22 November, apart from those related to the 2017 stress tests, which were taken at its meeting on 27 November 2017.

As permitted under the Bank of England Act 1998, Anthony Habgood was present at the meeting on 22 November as observer in his role as Chairman of Court.

ANNEX 1: PREVIOUS FPC POLICY DECISIONS

Outstanding FPC Recommendations and Directions

The FPC has no Recommendations or Directions that have not already been implemented.

Other FPC policy decisions which remain in place

The table below sets out previous FPC decisions, which remain in force, on the setting of its policy tools. The calibration of these tools is kept under review.

Topic	Calibration
Countercyclical capital buffer rate	At its meeting in November 2017, the FPC increased the UK CCyB rate from 0.5% to 1%, with binding effect from 28 November 2018. It said it would reconsider the adequacy of a 1% UK CCyB rate during the first half of 2018, in light of the evolution of the overall risk environment. The United Kingdom has also reciprocated a number of foreign CCyB decisions — for more details see the Bank of England website.[4] Under PRA rules, foreign CCyB rates applying from 2016 onwards will be automatically reciprocated up to 2.5%.
Mortgage loan to income ratios	In June 2014, the FPC made the following Recommendation (14/Q2/2): The Prudential Regulation Authority (PRA) and the Financial Conduct Authority (FCA) should ensure that mortgage lenders do not extend more than 15% of their total number of new residential mortgages at loan to income ratios at or greater than 4.5. This Recommendation applies to all lenders which extend residential mortgage lending in excess of £100 million per annum. The Recommendation should be implemented as soon as is practicable. The PRA and the FCA have published their respective approaches to implementing this Recommendation: the PRA has issued a policy statement, including rules,[5] and the FCA has issued general guidance.[6]
Mortgage affordability	At its meeting in June 2017, the FPC replaced its June 2014 mortgage affordability Recommendation to reference mortgage contract reversion rates: When assessing affordability, mortgage lenders should apply an interest rate stress test that assesses whether borrowers could still afford their mortgages if, at any point over the first five years of the loan, their mortgage rate were to be 3 percentage points higher than the reversion rate specified in the mortgage contract at the time of origination (or, if the mortgage contract does not specify a reversion rate, 3 percentage points higher than the product rate at origination). This Recommendation is intended to be read together with the FCA requirements around considering the effect of future interest rate rises as set out in MCOB 11.6.18(2). This Recommendation applies to all lenders which extend residential mortgage lending in excess of £100 million per annum. At its meeting in September 2017, the FPC confirmed that the affordability Recommendation did not apply to any remortgaging where there is no increase in the amount of borrowing, whether done by the same or a different lender.

[4] http://www.bankofengland.co.uk/financialstability/Pages/fpc/ccbrates.aspx
[5] http://www.bankofengland.co.uk/pra/Documents/publications/ps/2014/ps914.pdf
[6] http://www.fca.org.uk/news/fg14-08

ANNEX 2: PREVIOUSLY DEFERRED TEXT

Under Section 9U of the Bank of England Act 1998, the FPC can defer publication of some parts of its Records if it decides that publication at that point would be against the public interest. As set out in paragraph 108 of this Record, the FPC has decided to publish now the following text from the Record of its meeting on 20 September 2017. That Record has been updated on the Bank's website.

Meeting date	Previously deferred text
September 2017	52. Early estimates suggested that at least £20 billion of insurance liabilities of EEA firms to around 6 million UK policyholders, and £40 billion of liabilities of UK incorporated firms to around 30 million EEA policyholders, could potentially be affected. To mitigate these risks, firms were planning either to secure new authorisations for existing entities or transfer contracts to a new entity with the correct permissions. The UK process of transferring retail contracts relied on a court procedure that could take 12-18 months; given the volume of these applications was expected to be three to five times the normal level, there was a risk that transfers would not be completed in time. The PRA and FCA were working to ensure that firms' plans were as robust as possible, and the Bank had written to the High Court to alert them to the potential for increased applications. The Bank had also discussed the risks in this area with HM Treasury. HM Treasury, the PRA and the FCA were drawing up options to protect UK policyholders, some of which may require legislation and in some cases cooperation with the EU.