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RECORD OF THE FINANCIAL POLICY COMMITTEE MEETINGS

23 AND 29 NOVEMBER 2016

This is the record of the Financial Policy Committee meetings held on 23 and 29 November 2016.

It is also available on the Internet:

<http://www.bankofengland.co.uk/publications/Documents/records/fpc/pdf/2016/record/1612.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 22 March 2017 and the record of that meeting will be published on 4 April.

RECORD OF FINANCIAL POLICY COMMITTEE MEETINGS HELD ON 23 AND 29 NOVEMBER 2016

At its meetings on 23 and 29 November 2016, the Financial Policy Committee (FPC):

- Maintained the UK countercyclical capital buffer (CCyB) rate at 0%, and reaffirmed that it expected to maintain a UK CCyB rate at 0% until at least June 2017, absent any material change in the outlook. It continued to support the clear supervisory expectation of the Board of the Prudential Regulation Authority (PRA) that firms should not increase dividends and other distributions as a result of the UK CCyB rate being maintained at 0%.
- Reviewed and agreed to maintain without change the Recommendations that it had made in June 2014 to insure against the risk of a marked loosening in underwriting standards in the owner-occupier mortgage market and a further significant rise in the number of highly indebted households. The full text of the 2014 Recommendations is in the annex of this record.

1. The Committee met on 23 November 2016 to review the outlook for financial stability and, on the basis of that, any related policy action. It assessed the outlook for financial stability by identifying the risks currently faced by the UK financial system and weighing them against the resilience of the system. The Committee met subsequently on 29 November 2016 to confirm its response to the results of the UK 2016 banking system stress test and its CCyB setting.

Risks to financial stability

2. The Committee reviewed financial system and economic developments, as set out more fully in the November 2016 *Financial Stability Report (FSR)*.

3. At a headline level, since the UK referendum on membership of the European Union, UK financial stability had been maintained through a challenging period of uncertainty around the domestic and global economic outlook. Substantial moves in financial market prices had not been amplified by the UK financial system, and core financial markets had functioned effectively. Indicators of UK economic activity and business sentiment had recovered from their low points immediately following the EU referendum and were materially stronger than had been expected in July.

4. However, the economic outlook remained weaker than in the first half of the year. The UK economy had entered a period of adjustment following the referendum, and it would take time to clarify the United Kingdom's new relationships with the European Union and the rest of the world, as well as for the UK economy to adjust to these changes. The nature of, and path to, these new relationships would be the subject of forthcoming negotiations between the UK Government and the European Union, and the orderliness of the adjustment would influence the risk to financial stability. Further, there was an increase in uncertainty around the global macroeconomic outlook following a new administration in the US and given the forthcoming Italian referendum and a number of elections in the euro area.

5. Against that backdrop, the FPC reviewed developments in the channels of risk that it had identified as most important.

UK commercial real estate

6. Activity in the commercial real estate (CRE) market had slowed sharply following the referendum, continuing a significant slowdown in 2016 H1. The value of transactions in 2016 Q3 had fallen by 10% on the previous quarter, and was 27% lower than a year ago. Aggregate CRE valuations had fallen by an estimated 2.6% since the referendum.

7. In the aftermath of the referendum, a significant number of investors had chosen to redeem their shares in open-ended funds investing in the CRE market, leading to sizeable net outflows. Given the illiquid nature of CRE investments, this had created liquidity pressures for those funds and several had suspended dealing as a result, in line with their rules. There had been a few instances of funds selling assets at a significant discount relative to pre-referendum valuations to raise cash and meet redemptions quickly. However, widespread, rapid sales of CRE assets had been avoided and spillovers to open-ended funds investing in other markets had been limited.

8. There had been signs of stabilisation in the CRE market in September and October, with the level of transactions recovering a little. Moreover, a survey conducted by the Royal Institution of Chartered Surveyors (RICS) had pointed to a stabilisation in investor enquiries in 2016 Q3. Most suspended open-ended funds had either re-opened or announced their intention to do so by the end of 2016, and flows into such funds had stabilised. So far, it appeared that the financial system had not materially amplified the shock that the sector had faced over the previous six months.

9. Nonetheless, the FPC agreed that there was the risk of further adjustment in the sector. This could create financial stability risks, given the reliance of the market in recent years on inflows of foreign capital, and given that valuations in some segments of the market continued to appear stretched. UK banks' CRE exposures had fallen substantially since the crisis, with the stock of UK banks' CRE lending having halved in value since 2008. But an adjustment could result in a tightening of credit conditions by reducing the ability of companies that use CRE as collateral to access finance. According to a Bank of England review of bank lending to small and medium-sized companies in 2015, 75% of those companies that had borrowed from banks had used CRE as collateral.

UK current account

10. The UK current account deficit remained large by international and historical standards, at 5.9% of GDP in 2016 Q2. The financing of the deficit was vulnerable to a reduction in foreign investor appetite for UK assets. This could be triggered by global factors, such as a reduction in international capital flows, or by UK-specific factors, such as perceptions of weaker long-run UK growth prospects. These would necessitate a sharper-than-expected narrowing of the current account.

11. The 12% reduction in the sterling exchange rate since the referendum seemed to reflect perceptions that the United Kingdom's future trading arrangements would be less open for a period, requiring a lower real exchange rate to maintain competitiveness. There had not to date been any material change to the United Kingdom's ability to finance its current account deficit, though there had been some indications of reduced foreign investor appetite for CRE and equities.

12. The nature of the United Kingdom's external balance sheet acted to mitigate the risk of a disorderly adjustment to the current account deficit. Estimates suggested that the UK held more foreign currency assets than liabilities. A depreciation of sterling would therefore act to improve the United Kingdom's net foreign asset position.

13. UK banks had materially reduced their reliance on short-term overseas borrowing since the global financial crisis; in aggregate, banks' foreign currency short-term liabilities remained covered by their foreign currency liquid assets. The Committee also noted that the resilience of the UK banking system to a sharp adjustment in the current account had been tested in the 2014 stress test, and major UK banks' capital positions had since strengthened. Ensuring that the banking system was able to manage a disruption in financing flows should help to avoid it amplifying the effect of any sharp current account adjustment.

14. Nonetheless, the Committee judged overall that a sharp adjustment in the current account could test financial stability indirectly through its impact on the real economy. It would be associated with higher funding costs for real economy borrowers and a further depreciation of sterling, worsening the trade-off between growth and inflation.

UK household indebtedness and review of 2014 owner-occupier mortgage market

Recommendations

15. At 133%, the ratio of aggregate UK household debt to income remained high by historical standards. In the twelve months to September 2016, total lending to the household sector had grown by 4.1%, close to its fastest rate since the global financial crisis. Over this same period, mortgage lending had grown by 3.2% and consumer credit had grown by 10.2%, continuing its rapid growth in recent years.

16. Strong growth in unsecured lending stood in stark contrast to market expectations of a weakening in the outlook for the UK economy, as reflected, for example, by falls in real risk-free interest rates. To the extent that this tension was maintained going forward, it raised the prospect of a further rise in household indebtedness as increases in unsecured debt outpaced growth in household incomes.

17. The burden of servicing the high level of household debt had been contained in recent years by the low level of interest rates. But households' ability to meet debt repayments could be challenged if the unemployment rate were to increase or household incomes to fall. In particular, analysis by Bank staff had suggested that an increase in the unemployment rate to 8% could double the proportion of households with high debt servicing ratios, to a level last seen in 2007. The risk was that highly-indebted households could cut back sharply on their expenditure in order to service their debts, thereby amplifying the effect of shocks on economic activity.

18. These considerations had led the FPC in June 2014 to make Recommendations to guard against the risk of a marked loosening in underwriting standards in the owner occupier mortgage market, and a significant increase in the number of highly indebted households. These measures had: introduced a limit on the number of new residential mortgages that major lenders could extend at loan to income multiples of 4.5 and above (the 'LTI flow limit'); and required that mortgage lenders apply an interest rate stress that assessed whether borrowers could still afford their mortgages if, at any point over the first five years of the loan, Bank rate were to be 3 percentage points higher than the prevailing rate at origination (the 'affordability test').¹

¹ The full text of the FPC's June 2014 Recommendations is in the annex of this record.

19. In accordance with its statutory obligation to keep its Recommendations under review, the FPC discussed whether its 2014 Recommendations remained warranted and if their calibration should be changed. Members recognised that the LTI flow limit and affordability test were complements as both acted to constrain the size of mortgage obtainable relative to incomes.

20. Since the Recommendations were made in 2014, there had been a substantial change in the path of Bank Rate implied by market yields: in June 2014, market prices were consistent with an expectation that Bank Rate would rise by around 225 basis points over the following 5 years; in November 2016, the expected rise had fallen to around 75 basis points. The Committee discussed whether this should prompt a change in the interest rate stress test. On the one hand, market yields suggested that a 300bp increase in rates had become a less probable event; on the other hand, relying too heavily on market yields would be imprudent, given that market prices were volatile and could adjust materially in the light of news – as evidenced by the sharp increases in sovereign yields that had followed the US election result. Some members noted that, if affordability testing was excluding credit-worthy borrowers from the market, banks could pass on reductions in the yield curve to their standard variable rates. Further, the affordability test helped to ensure that households were in a strong position to withstand a broader range of shocks, including those with adverse consequences for households' income. The Committee noted the importance of this resilience in the current risk environment.

21. The Committee considered the impact of the housing policy measures on mortgage lending and housing market transactions. When introduced, these measures had been calibrated as insurance against the possibility that a loosening in lending standards might lead to a significant increase in the tail of very highly indebted households. The measures had not been expected to have a material impact in the most likely outlook for the economy at that stage and most lenders were already adhering to the standards set by the FPC.

22. Consistent with that, the FPC judged that these measures had probably only had a modest effect on the volume of mortgage lending to date. The proportion of new mortgages extended at loan to income ratios at or exceeding 4.5 was 9.7% in Q3, slightly below the 10.1% recorded in June 2014 – and below the 15% flow limit in the FPC's Recommendation. There was 'bunching' of new mortgages just below the FPC's 4.5 threshold, with one possible explanation for this that lenders wished to preserve some headroom below the FPC's limit. But analysis suggested that even if all additional borrowers since June 2014 with mortgages just below 4.5 times had instead

obtained a mortgage with an LTI of 5 times, the value of total mortgage lending would have increased by less than 1%.

23. Data from mortgage intermediaries had suggested that the proportion of mortgage applications being rejected had not changed materially since the Recommendations were made in 2014. Information gathered from a small number of lenders did not suggest that the calibration of the affordability test was resulting in a material proportion of mortgage enquiries being rejected, even prior to the formal application stage. There had not been an unusual pick-up in mortgage tenor in response to the Recommendations, and the proportion of first-time buyers had been broadly unchanged since the policies were introduced. It was impossible to know the counterfactual, however, and the presence of these measures may nevertheless have conditioned lenders' expectations and removed the incentive for individual banks to loosen standards significantly in the hope of gaining market share.

24. Putting these considerations together, the FPC agreed that the insurance provided by the measures remained appropriate and decided to retain both of its housing policy measures at their current calibration. Given the risk outlook, it was not the time to loosen standards and expose the economy to a potential amplification by households of shocks to economic activity. It agreed to conduct a broader review in 2017 of its overall strategy for setting policy measures to guard against risks stemming from the owner-occupier and buy-to-let mortgage markets. This would include considering whether the measures in place should be viewed more as structural policies, whose calibration would remain largely fixed over time, or rather as more time-varying policies. The review would also include consideration of the interaction between the various tools at the FPC's disposal.

Global environment and financial market fragility

25. Following the US election, expectations of expansionary fiscal policy in the United States had helped to push up advanced economy sovereign yields. Since the July *FSR*, 10-year government bond yields in the United States, United Kingdom and Germany had increased by 97 basis points, 55 basis points and 45 basis points respectively and the US dollar had appreciated by 6%. Despite this, term premia on advanced economy bonds were still low, suggesting that the risk of a further sharp adjustment in fixed income markets remained.

26. Equity prices in advanced economies had performed strongly since the July *FSR*, diverging from bond prices, consistent with market expectations of an improvement in perceptions of the growth outlook. In the United Kingdom, the FTSE All Share index had risen by 3.8%. The Euro Stoxx and S&P 500 indices had risen by 4.8% and 3.8% respectively.

27. However, there was significant uncertainty around the outlook for global economic growth and downside risks remained, magnified by high levels of global debt. Coupled with a risk of reduced trade, the rise in advanced economy sovereign yields had reinforced the vulnerabilities of those emerging market economies (EMEs) with high levels of debt. Estimates from the Institute of International Finance had suggested that capital flows into EMEs had halted in October. In the week following the election, EPFR Global had reported a record of \$6.6bn outflows from EPFR-tracked EME bond funds.

28. China had a particularly high ratio of non-financial sector debt to GDP, estimated at around 260%; since the global financial crisis, non-financial sector debt had risen by around 100 percentage points relative to GDP. Growth in China was increasingly reliant on rapid credit expansion, currently at around twice the rate of nominal GDP growth. Estimated net capital outflows had continued and had picked up to near-record levels in 2016 Q3, and the renminbi had depreciated by 3% against the US dollar since the July *FSR*.

29. In some euro area economies, sovereign debt positions remained vulnerable to a further rise in the cost of borrowing for governments or a weakening in growth prospects, perhaps associated with a reduction in global trade. A number of countries in the euro area periphery had both high levels of debt relative to GDP and a positive differential between the outstanding interest rate on government debt and expected economic growth. This implied a need to run fiscal surpluses over a protracted period to keep the cost of servicing debt at sustainable levels.

30. Uncertainty was further heightened over the coming months by the forthcoming Italian referendum and a number of elections in the euro area. Government yields in Italy and Portugal had risen sharply following the US election, though remained well below levels observed in 2011-2013, when previous concerns over debt sustainability had surfaced.

31. Challenges also remained to the resilience of the euro-area banking system. Price to book ratios were very low, with the average ratio below half for both Italy and Germany. For Italian

banks, the ratio of non-performing loans to capital and provisions was over 100%. Uncertainty about potential fines for past misconduct and concerns about the longer-term viability of business models were also weighing heavily on the valuations of some banks across the continent.

32. Additional risks from the euro area could emerge as a consequence of the United Kingdom's withdrawal from the European Union. Firms incorporated in the United Kingdom were estimated to be involved in over half of debt and equity issuance by EU (excluding UK) borrowers. UK firms also facilitated access to hedging instruments. Within the European Union, for example, over three-quarters of foreign exchange and over-the-counter interest rate derivatives trading took place in the United Kingdom. Changes to the trading relationship between the United Kingdom and the European Union may require firms to alter their operations and the services they provided. If any such adjustments were to take place in a short timeframe, there could be a greater risk of disruption to services provided to the European real economy, which could spill back to the UK economy through trade and financial linkages.

33. Putting these considerations together, the FPC judged that vulnerabilities stemming from the global environment and financial markets, which were already elevated, had increased further since July.

Resilience of the UK financial system

34. Financial stability depends on the resilience of the system to risks. The FPC assessed the resilience of the UK banking system drawing on the 2016 stress test results. It assessed the resilience of market-based finance in light of its annual review of risks beyond the core banking sector and its assessment of procyclicality in insurers' investment activities.

Banking sector and 2016 stress test

35. The resilience of the UK banking sector continued to be grounded on substantial capital and liquidity positions. The aggregate common equity Tier 1 capital of major UK banks was 13.5% of risk-weighted assets in September 2016. The aggregate leverage ratio was 4.7% of total exposures on a Basel III basis. The aggregate Liquidity Coverage Ratio (LCR), which measures the ratio of liquid assets to net outflows under stressed conditions, was 121% in September 2016, ahead of the regulatory transition path for the LCR that required firms to reach a standard of 100% by 2018. Major UK banks also had sufficient stable funding in aggregate to meet the proposals of

the Basel Committee on Banking Supervision's Net Stable Funding Ratio. Bank funding costs had remained significantly lower than during episodes of severe stress and credit conditions had not tightened.

36. The 2016 stress test of the UK banking system had covered seven major UK banks and building societies, accounting for around 80% of PRA-regulated banks' lending to the UK economy. The FPC was responsible for assessing the implications of the results for the resilience of the system as a whole, with the PRA Board responsible for assessing the adequacy of capital positions of individual institutions. The FPC had received the results in draft for its meeting on 23 November, before confirming the final results on 29 November.

37. The test, which was the first conducted under the Bank's new approach to stress testing², had examined the resilience of the system to a more severe stress than in 2014 and 2015. It had incorporated a very severe, synchronised UK and global economic recession, a congruent financial market shock and a separate misconduct cost stress. The scenario had drawn on the assessment made by the FPC and PRA Board in March 2016 that overall risks to global activity associated with credit, financial and other asset markets were elevated, and that risks associated with domestic credit were no longer subdued but were not yet elevated.

38. Performance in the test had been assessed against the Bank's new hurdle rate framework, which comprised elements expressed both in terms of risk-weighted capital and leverage ratios, and which held systemic firms to a higher standard reflecting the phasing-in of capital buffers for global systemically important banks.

39. As set out in full in *Stress testing the UK banking system: 2016 results*, the stress scenario was estimated to lead to system-wide losses of £44 billion over the first two years of the stress. This was around five times the net losses incurred by the same banks as a group over 2008-09. Based on the Bank's projections, the 2016 stress scenario would reduce the aggregate CET1 capital ratio across the seven participating banks from 12.6% at the end of 2015 to a low point of 8.8% in 2017, after factoring in the impact of management actions and the conversion of AT1

² <http://www.bankofengland.co.uk/financialstability/Documents/stresstesting/2015/approach.pdf>

instruments into CET1 capital. The aggregate Tier 1 leverage ratio would fall from 4.9% at the end of 2015 to a low point of 3.9% in 2017.

40. Compared to previous tests, the fall in the aggregate CET1 capital ratio from start to stressed low point was larger in the 2016 stress test, reflecting the greater severity of the stress scenario. Nevertheless, at 8.8% that low point was well above the 7.6% low point reached in 2014 and 2015, reflecting improvements in banks' starting capital positions. The FPC noted the strong performance of the most domestically focused banks in the stress.

41. The FPC judged that the system should be capitalised to withstand a test of this severity, given the risks it faced. While the PRA Board judged that some capital inadequacies were revealed for three banks (The Royal Bank of Scotland Group, Barclays, and Standard Chartered), these banks now had plans in place to build further resilience. The FPC therefore welcomed the actions by these banks to improve their capital positions.

42. The FPC noted the increased resilience to stress provided by banks' Additional Tier 1 (AT1) capital positions. The CET1 ratios of the three banks above had fallen below 7% in the stress scenario, and as a result their AT1 instruments had been assumed to convert into CET1. Members thought it was important that it was transparent in the test results that some AT1 instruments had been converted, including because this could reduce feedback effects if they were to be triggered in practice. It was important that the risks inherent in these instruments were well understood.

43. The FPC also noted banks' stated intentions to reduce dividends in the stress. Consistent with this, or with mandatory restrictions on dividend payments under CRDIV, in the event that a stress were to materialise with an associated significant fall in banks' profits, investors should expect a material cut in dividends.

44. The FPC judged that, as a consequence of the stress test, the UK banking system was in aggregate capitalised to support the real economy in severe stresses such as those that could face the United Kingdom and global economies. The FPC judged that no system-wide macroprudential actions on bank capital were required in response to the 2016 stress test.

45. The FPC discussed the ability of the UK banking system to maintain this resilience in the future.

Profitability and business models

46. UK-focused bank equity prices remained below levels seen at the start of 2016, with price to book ratios well below one for some banks. Asset quality metrics were consistent with a view that this reflected expectations of weak future profitability, rather than concerns about unrecognised impairments. While net interest margins were stable, major UK banks continued to face a range of headwinds including redress for past misconduct and weak investment banking returns.

47. There was a risk that a prolonged period of low returns could harm banks' ability to absorb the impact of future shocks through retained earnings. With this in mind, the FPC had discussed with the PRA Board the scenario for the 'exploratory' stress test, which the Bank would run next year alongside the annual cyclical scenario. Following that discussion, the exploratory scenario would assess the impact on the UK banking sector of weak global supply growth, persistently low interest rates and a continuation of declines in both world trade relative to GDP and cross-border banking activity. The test would have a seven-year horizon to capture these long-term trends.

48. Changes to financial firms' business models and structures as the United Kingdom withdrew from the European Union could have implications for the resilience of the financial system in the United Kingdom and more broadly. The FPC was working with supervisors to assess these implications as firms began to plan for the United Kingdom's new relationship with the European Union. Possible implications included disruption of services, particularly if any adjustment could not be made smoothly, a further weakening of investment banking profitability and the potential for greater complexity in firms' legal structures – which could place greater demands on firms' risk management and on supervisory oversight, and pose challenges for effective resolution.

Cyber attack

49. Cyber and technology-enabled attacks continued to be a serious threat to the resilience of the UK financial system, with a number of high-profile incidents in 2016.

50. In the run up to its meeting, the FPC was briefed by staff at the Bank and at the FCA on the incident involving Tesco Bank. In response to the incident, the UK authorities had activated a

contingency plan, as part of the Authorities' Response Framework, to share intelligence across firms, allowing other institutions to review their own resilience to such threats.

51. The FPC discussed the risk that incidents involving individual banks or firms could be amplified if they led to a broader shock to confidence among customers, or through interconnections in the financial system. They would become risks to financial stability if they had the potential to disrupt the vital services that the financial system provided to the real economy. These kinds of concerns had prompted the FPC to make Recommendations in 2013 and 2015 on building cyber resilience: the Recommendation in 2013 to establish a vulnerability testing programme (known as 'CBEST'); and a Recommendation in 2015, replacing the 2013 Recommendation, to complete CBEST tests, adopt individual cyber resilience action plans and establish arrangements for CBEST tests to become one component of regular cyber resilience assessment. The FPC reviewed progress against the 2015 Recommendation, full details of which would be published in the November *FSR*. The FPC also received an update on the broader work programme by the Bank, the FCA and HM Treasury to enhance financial system cyber resilience.

52. The first round of the CBEST vulnerability testing programme was now close to completion. Thirty out of 35 core firms and financial market infrastructures (FMIs) had completed CBEST tests, three times the number from a year earlier, and the results showed that financial sector resilience against cyber attack was increasing. Similar to the Bank's approach to the annual concurrent stress test of the UK banking sector, CBEST testing had been focused so far on core firms and FMIs. The UK authorities planned to review how best to assess the cyber resilience of firms which were critical for financial stability, including firms that were not regulated by the financial regulatory authorities.

53. Where weaknesses in the cyber resilience of individual firms and FMIs had been identified by CBEST testing, remediation plans had been put in place. The next step, consistent with the FPC's Recommendation, was to embed this work into the supervisory process. The future framework would have three main elements: firms' own regular testing; spot checks on this regular testing; and a regular concurrent cyber resilience test for some firms.

54. Cyber testing was just one important component of the programme of work. The authorities were developing standards against which to assess all elements of firms' and FMIs' cyber resilience capabilities, including those not directly or fully covered by the CBEST

framework. The UK authorities, working with the new National Cyber Security Centre, were also further simplifying and improving mechanisms for information sharing across the financial sector.

55. Given the cross-jurisdictional threat posed by cyber risk, it was important that initiatives were pursued both domestically and internationally. As one example, the standards being developed for use in the UK would be based on internationally developed guidance on cyber resilience for the financial sector, published by a G7 Cyber Expert Group that was being co-chaired by the Bank.

56. The FPC judged that important progress was being made in building cyber resilience in the UK financial sector. It was important for institutions to ensure that they had appropriate controls and measures in place to counter fraud. The FPC would receive a further update on its cyber Recommendation and the broader work programme to enhance financial system cyber resilience in 2017 H1, and, on that basis, would review its Recommendations.

Market-based finance

57. Overall, core financial markets had functioned effectively since July, despite spikes in uncertainty and risk aversion, and with trading volumes at many multiples of normal levels at times. Recent market developments had highlighted the importance of resilience of markets, and of market-based finance, to sharp market moves. But the resilience of market liquidity remained uneven.

58. Looking at specific events, the Committee discussed the episode on 7 October when sterling had depreciated by around 9% against the US dollar in less than 40 seconds, before quickly retracing much of the move. The trigger for the episode, which had occurred when UK and US markets were closed and liquidity was typically thin, was not clear. The fall may have been exacerbated by the use of algorithms that were inappropriate for trading conditions at the time; and the presence of circuit breakers on some foreign exchange trading venues may have contributed to a sharp withdrawal of liquidity across the market more broadly.

59. As with other recent episodes, this ‘flash event’ had proved to be short-lived and without immediate consequences for financial stability. Spillovers to non-sterling currency pairs and other asset prices had been limited and no material losses had been reported by major UK banks. Nevertheless, such disruptions underscored the concern that liquidity in some markets may have

become more fragile in recent years. The FPC, drawing on the work of the BIS Markets Committee, would seek to examine the potential implications of these developments for financial stability.

60. The FPC discussed how market liquidity could also be challenged during a period of adjustment related to the United Kingdom's new relationship with the European Union. Any change in arrangements could have implications for levels of activity in exchanges and other trading venues. It could also affect the level of market-making activity by intermediaries as they adjust business structures. The FPC would continue to assess these risks.

Annual review of risks beyond the core banking sector, including insurers' investment behaviour

61. Since 2014, the FPC had augmented its rolling programme of in-depth reviews on specific activities outside of the core banking sector with an overall annual assessment. Following its annual assessment in July 2015, the FPC had planned to complete a review in July 2016. That had been postponed following the EU referendum, and the FPC finalised it instead at this meeting.

62. Since the July 2015 assessment, the FPC had completed three in-depth reviews: on open-ended investment funds – which it had set out in the December 2015 *FSR*; on market liquidity – in the July 2016 *FSR*; and its assessment of risks to financial stability from insurers' investment behaviour – which it finalised at this meeting.

63. Alongside these reviews, the Bank was developing a system-wide stress simulation, to investigate how – together – the sectors examined by the FPC shaped core market dynamics. It would help to assess the extent to which core markets could amplify shocks. The FPC supported this exercise. It asked the Bank to identify any material data gaps in order for the FPC to discuss whether any further initiatives would be necessary to fill them.

64. The FPC looked at insurers' investment behaviour. In the United Kingdom life insurance companies held £1.7 trillion of assets, which accounted for a significant proportion of the total assets outstanding in several UK securities markets. Their investment behaviour was therefore potentially important for financial market functioning.

65. The FPC's assessment focused on the extent to which the introduction of Solvency II, in January 2016, might have affected the propensity of UK life insurers to invest procyclically. The analysis discussed by the FPC would be set out in full in the November 2016 *FSR*.

66. In the view of the FPC, Solvency II in the main was contributing to the resilience of the insurance sector. It included some features that were beneficial from a macroprudential perspective – including the matching adjustment, which allowed insurers, when holding long-dated assets to match long-dated stable liabilities, to look through the impact of short-term market movements on assets when valuing their liabilities.

67. But the FPC had concerns over the risk margin element of Solvency II. The risk margin was calculated by multiplying a cost of capital – which was assumed in the risk margin calculation not to vary with changes in financial market conditions, including risk-free interest rates – by the net present value of future capital requirements. As risk-free interest rates fell, the net present value of future capital requirements increased. This could cause the value of the risk margin to increase considerably, increasing the volatility of insurers' solvency positions and in turn affecting investment behaviour as well as risk management decisions.

68. The FPC judged that this current design of the risk margin could, in future, encourage procyclical investment behaviour, and that limiting its sensitivity to changes in risk-free interest rates would therefore have macroprudential benefits. This should be addressed, including through the forthcoming review of Solvency II by the European Commission. Such incentives should also be avoided in the International Capital Standards for insurers, which were being developed by the International Association of Insurance Supervisors.

69. As part of its review, the FPC also considered whether risks to market liquidity from unit-linked insurance products were comparable to the risks from open-ended investment funds. In its view, unit-linked insurance products shared some economic similarities with open-ended investment funds, with investors able to switch between funds at short notice. Drawing on a recent Bank survey of unit-linked providers, there was tentative evidence that this flexibility could lead to procyclical investment behaviour, particularly during times of stress. To consider the impact of this, the Bank would include unit-linked funds in its system-wide stress simulation.

70. In addition to its review of insurers, the FPC received an update on some of the issues it had outlined in its review of the activities of open-ended investment funds in December 2015. It supported the FCA's plans to publish a discussion paper on the potential challenges associated with the structure of open-ended funds investing in illiquid assets, including CRE funds. It also supported the proposals being developed by the FSB to address structural vulnerabilities related to asset management activities. The Bank's work to develop a system-wide stress simulation would help to analyse the behaviour of various sectors, to assess their impact on market functioning.

71. Finally, in addition to its three in-depth reviews, the FPC considered other activities beyond the core banking sector that could potentially cause or amplify shocks to the 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 liquidity or maturity mismatch between assets and liabilities. 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.

72. The FPC agreed that it was not at present necessary to recommend any changes to the regulatory perimeter. But, as set out in detail in the November *FSR*, the FPC:

- asked the Bank to complete an in-depth assessment of the financial stability risks associated with derivatives transactions. This would examine progress towards implementation of the post-crisis reforms in derivatives markets and consider the implications for the resilience of the financial system. The assessment would also contribute to a broader review by the Financial Stability Board;
- would continue to analyse developments in market liquidity, including in fast, electronic markets;
- noted that the Bank was contributing to an international review of repo market functioning by the Committee on the Global Financial System;
- would, alongside the MPC, continue to examine developments in defined-benefit pension fund deficits, in light of the current low interest rate environment; and
- would monitor on the basis of Bank and FCA reports a number of fast-growing areas – including exchange traded funds, peer-to-peer lending, and other innovations in financial technology. In this context, the FPC noted the FCA's work to review the regulatory framework for peer-to-peer platforms, and the FSB's

work to analyse specific financial technology innovations and highlight any regulatory issues that merited policy attention.

Outlook for financial stability and UK CCyB rate decision

73. Weighing the risks faced by the UK financial system against the resilience of the system, the FPC judged that the current outlook for financial stability in the United Kingdom remained challenging. In the view of the FPC, the likelihood that some UK-specific risks to financial stability could materialise remained elevated. In that context, it discussed its setting of the UK countercyclical capital buffer (CCyB) rate, which it was required to review and set quarterly.

74. As required by legislation, the Committee reviewed the Basel ‘buffer guide’ – defined as the difference between the ratio of credit to GDP and a statistical estimate of its long-term trend. This measure remained near its historical low. As the Committee had discussed in previous meetings, the long-run trend on which the indicator was based gave undue weight to the period before the crisis and therefore may not be reliable. Year on year growth in overall credit to the private nonfinancial sector was 4.4% in 2016 Q2, compared to the growth rate of nominal GDP of 4.0% in 2016 Q3.

75. The FPC also considered the results of the 2016 stress test. As it had set out in its Policy Statement on its approach to the CCyB earlier in the year, stress test results would inform the setting of the UK CCyB rate.

76. The UK economic shock in the 2016 scenario had, in aggregate, reduced banks’ capital by around 3.5% of related UK risk-weighted assets. Based on a fully-phased in capital conservation buffer of 2.5% of risk-weighted assets, this suggested that a system-wide UK CCyB rate in the region of 1% would be consistent with the banking system having the capacity to absorb a UK economic scenario of the severity embodied in the 2016 stress test.

77. This was consistent with the FPC’s view that a UK CCyB rate in the region of 1% was appropriate in a standard UK risk environment, which had been the foundation for the severity of the UK economic scenario in the 2016 test. And when the FPC had set the UK CCyB rate at 0.5% in March, it had signalled that, in doing so, it was on a path to a setting of 1%, consistent with its

assessment of the risk environment. The stress test results had therefore supported the Committee's judgement about the appropriate 'neutral' level of the UK CCyB rate of 1%.

78. However, in July, following the EU referendum, the FPC had set the UK CCyB rate at 0%. This had been a pre-emptive response to greater uncertainty around the UK economic outlook and an increased possibility that material domestic risks could crystallise in the near term. The FPC had been concerned that banks could respond to these developments by hoarding capital and restricting lending. Alongside reducing the buffer, the FPC had set out that it expected to maintain a 0% UK CCyB rate until at least June 2017, absent any material change in the outlook. This guidance had provided banks with the clarity necessary to facilitate their capital planning.

79. Those considerations had not changed. The availability of banks' capital resources, and their use to absorb shocks if risks materialised, insured against a tightening of bank credit conditions. The reduction of the CCyB rate in July was intended to reinforce the FPC's expectation that all elements of capital and liquidity buffers were able to be drawn on, as necessary, to support the real economy.

80. Therefore, and in light of the reassurance on capital adequacy provided by the stress test results and the action being taken by firms, there was agreement to maintain the UK CCyB rate at 0%. The FPC also reaffirmed its expectation, absent any material change in the outlook, to maintain this rate until at least June 2017. It also restated its support for the clear supervisory expectation of the PRA Board that firms should not increase dividends and other distributions as a result of the UK CCyB rate being maintained at 0%.

Regular review of existing Recommendations and 2017 work plan

81. *Powers of Direction over housing instruments (14/Q3/1)*: The FPC had been granted powers of Direction over mortgage lending for owner-occupied properties in 2015. The outstanding part of the FPC's Recommendation to HM Treasury related to powers of Direction over buy-to-let mortgage lending. HM Treasury had published a response document related to its consultation on giving the FPC powers of Direction over buy-to-let mortgage lending and had laid draft legislation before Parliament on 16 November 2016. Subject to Parliament approving the legislation, HM Treasury expected the FPC to have the powers from early 2017. On 18 November 2016, the FPC had published a draft update of its Policy Statement on housing tools,

including the proposed buy-to-let mortgage lending tools, to inform the Parliamentary debate. The FPC agreed to review the Recommendation again in March, following any legislative action.

82. *CBEST vulnerability testing (15/Q2/3)*: The FPC reviewed its Recommendation and agreed to maintain it. It would review progress again in 2017 H1.

83. *Distribution of capital to meet 'fair shares' of systemic buffers (16/Q2/1)*: This Recommendation was made at the FPC's May 2016 meeting to agree the final systemic risk buffer framework. The PRA had consulted on its planned approach to implement the Recommendation and intended to issue a statement containing the final policy. The FPC agreed that it would review progress again once the PRA's final policy was in place.

2017 work plan

84. In its response to the Chancellor's remit and recommendations letter in May 2016, the FPC had outlined that it planned to review, update and publish its medium-term work programme later in 2016. The FPC therefore took stock of the work that it had planned so far to undertake in 2017 – this would be set out in full in the November *FSR*.

85. In line with its statutory responsibility to identify, monitor and take action to remove or reduce systemic risks with a view to protecting and enhancing the resilience of the UK financial system, the FPC would continue to assess the systemic risks listed in the November *FSR*, and others as they emerged. As part of this, the FPC would continue to assess the financial stability implications of the United Kingdom's withdrawal from the EU, as that process developed.

86. The FPC had set out during the year work it planned for 2017 on banking sector resilience:

- **Stress testing**: As discussed earlier, the 2017 stress test would include two scenarios for the first time - the annual cyclical scenario and the biennial exploratory scenario.
- **Framework for bank capital requirements**: The FPC planned to assess in 2017 some of the judgements underlying the risk-weighted capital framework for UK banks that it had set out in December 2015, ahead of a full review in 2019. It would also review the UK leverage ratio framework in 2017, to consider: progress towards an international minimum leverage standard; recalibration of the UK leverage ratio standard to adjust for the impact of the FPC's decision in July 2016

to exclude central bank reserves from the exposure measure; and the scope of application of the framework.

87. Work on the resilience of market-based finance in 2017 would include:

- the FPC's annual review of risks and regulation beyond the core banking sector;
- a review of the work that the FPC had asked the Bank to complete on financial stability risks associated with derivative transactions;
- continued analysis of developments in market liquidity and potential risks associated with open-ended investment funds, following on from in-depth assessments in these areas in 2015; and,
- consideration of the Bank's work to develop a system-wide stress simulation, including identifying material data gaps.

88. In addition:

- the FPC would conduct a review in 2017 of its overall strategy for setting policy to guard against risks stemming from the mortgage market; and,
- the FPC would review in 2017 progress against the medium-term priorities that it had set in 2013, and develop its approach to the next phase of this work: establishing a medium-term capital framework for banks; ending 'too big to fail', including through development of the new resolution regime; and ensuring diverse and resilient sources of market-based finance.

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

Nemat Shafik, Deputy Governor responsible for markets and banking³

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 23 November 2016, apart from those related to the 2016 stress test which were taken at its meeting on 29 November 2016.

As permitted under the Bank of England Act 1998, Anthony Habgood was present on 23 November 2016 as observer in his role as Chairman of Court.

³ Nemat Shafik was present at the FPC's 23 November meeting, but was unavoidably unable to attend the meeting on 29 November.

ANNEX: PREVIOUS FPC POLICY DECISIONS

Outstanding FPC Recommendations and Directions

Identifier ^(*)	Recommendation/Direction
14/Q3/1	The FPC recommends that HM Treasury exercise its statutory power to enable the FPC to direct, if necessary to protect and enhance financial stability, the PRA and FCA to require regulated lenders to place limits on residential mortgage lending, both owner-occupied and buy-to-let, by reference to: (a) loan-to-value ratios; and (b) debt-to-income ratios, including interest coverage ratios in respect of buy-to-let lending.
15/Q2/3	The FPC recommends that the Bank, the PRA and the FCA work with firms at the core of the UK financial system to ensure that they complete CBEST tests and adopt individual cyber resilience action plans. The Bank, the PRA and the FCA should also establish arrangements for CBEST tests to become one component of regular cyber resilience assessment within the UK financial system.
16/Q2/1	The FPC recommends to the PRA that it should seek to ensure that, where systemic buffers apply at different levels of consolidation, there is sufficient capital within the consolidated group, and distributed appropriately across it, to address both global systemic risks and domestic systemic risks.

(*) Each Recommendation and Direction is listed with an identifier to allow tracking of progress. For example, '14/Q3/1' refers to the first Recommendation made at the 2014 Q3 meeting.

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 (CCyB)	In July 2016, the FPC reduced the UK CCyB rate from 0.5% to 0% of banks' UK exposures with immediate effect. Absent any material change in the outlook, and given the need to give banks the clarity necessary to facilitate their capital planning, the FPC expects to maintain a 0% UK CCyB rate until at least June 2017. This rate is reviewed and set on a quarterly basis. 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%.
Prevailing FPC Recommendation on mortgage affordability tests	<p>When assessing affordability in respect of a potential borrower, UK mortgage lenders are required to have regard to any prevailing FPC Recommendation on appropriate interest rate stress tests. This requirement is set out in FCA rule MCOB 11.6.18(2).⁵ In June 2014, the FPC made the following Recommendation (14/Q2/1):</p> <p><i>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, Bank Rate were to be 3 percentage points higher than the prevailing 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).</i></p>
Recommendation on loan to income ratios	<p>In June 2014, the FPC made the following Recommendation (14/Q2/2):</p> <p><i>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.</i></p> <p>The PRA and the FCA have published their respective approaches to implementing this Recommendation: the PRA has issued a policy statement, including rules,⁶ and the FCA has issued general guidance.⁷</p>

⁴ <http://www.bankofengland.co.uk/financialstability/Pages/fpc/ccbrates.aspx>

⁵ <https://www.handbook.fca.org.uk/handbook/MCOB/11/6.html>

⁶ <http://www.bankofengland.co.uk/prd/Documents/publications/ps/2014/ps914.pdf>

⁷ <http://www.fca.org.uk/news/fg14-08>