Questions for Sir David Ramsden, from House of Commons Treasury Committee

Personal/General

1. **Do you have any business or financial connections or other commitments, which might give rise to a conflict of interest in carrying out your duties?**

   No. I have complied and will continue to comply with the Bank's policies and procedures on conflicts, as updated following the recent Review by the Non-Executive Directors of the Bank's Court published in August 2017 and as reflected in the Bank's latest Our Code, published on 25 September 2017.

   For fullness of disclosure, I maintain the following interests:
   - Governor, National Institute of Economic and Social Research
   - Council member, Institute for Fiscal Studies
   - President, Society of Business Economics
   - Trustee, Pro Bono Economics
   - Visiting Professor, King's College London

   In maintaining these interests I will follow guidance from the Bank's Conflicts Officer to ensure I am not involved in any discussions or decisions that would give rise to any actual or perceived conflict.

2. **Do you intend to serve for the full term for which you have been appointed?**

   Yes.

3. **How has your experience to date equipped you to fulfil your responsibilities as a member of the MPC, FPC and PRC? In particular, in which areas do you feel especially capable of making a contribution, and in which will you have to undertake additional research?**

   31 years' experience as a member of the Government Economic Service, including the last 10 years as Chief Economic Adviser to HM Treasury has given me a deep and broad understanding of the UK's economic performance, the impact of macroeconomic and microeconomic policies and the role played by institutions. I will highlight six areas of experience and knowledge relevant to the contribution I can make to all three of the Bank's policy committees.

   First, the wide range of economic and policy issues I have contributed analysis and advice on. My leadership of significant work programmes such as the Treasury's Five Tests Assessment for whether the UK should join EMU, the Treasury's analysis in the run-up to the referendums on Scottish independence and UK membership of the EU, as well as my contribution to the Treasury's ongoing work on productivity and labour market policy have equipped me with a good sense of the longer term drivers of UK economic performance. Recurring themes have been productivity and the labour market, the influence of the degree of openness and the flexibility of markets, the balance of the economy, alongside the evolution of the UK's regional and sectoral structure.

My role in assessing and advising on shorter term UK developments before, during and since the global financial crisis has given me a good understanding of the economic and financial cycle and the interaction of the two. In particular the relationship between slack in the economy and wages, the evolution of prices, the credit cycle, the adjustment path of the economy in response to demand and supply shocks, and the impact of monetary, liquidity, credit easing and fiscal policies.

I have demonstrated my commitment to evidence-based policymaking, and advised on the trade-offs that often arise between objectives. My experience gives me the economic knowledge and judgement required to make decisions on monetary, macro-prudential and micro-prudential policy.

Second, through my responsibilities for advising on fiscal developments and fiscal policy I understand the centrality of a comprehensive analytical approach (including scenario analysis) to effective risk assessment. Throughout my time as Chief Economic Adviser I chaired the Treasury's Fiscal Risks Committee and was a member of the Economic Risks Committee. Since 2010 I have led HM Treasury's relationship with the Office for Budget Responsibility (OBR) and encouraged the OBR in developing their approach, culminating in their first Fiscal Risks report, published in July 2017. As Accounting Officer for the Exchange Equalisation Account (EEA) and lead official for the relationship with the DMO and National Savings and Investment. I have worked within different governance structures, with financial and operational risk and control regimes. This experience will serve me well in contributing to risk discussions at all three of the Bank's statutory committees.

Third, I observed monetary policy-making first hand from 2007 onwards as the Treasury's representative at MPC meetings. Related to this I directed the Treasury's contribution to designing and implementing a range of monetary, liquidity and credit easing policies, led by the Bank and MPC. Major milestones included the various phases of the quantitative easing (QE) programme, the Special Liquidity Scheme, the Funding for Lending Scheme and the Term Funding Scheme (TFS). As a result I am equipped to oversee the implementation of monetary and financial stability policies of the Bank's policy committees through the its operations.

Fourth, for twelve years I led the engagement with the IMF and OECD on their regular surveillance of the UK economy. And from early 2009, usually in partnership with the DMO, I led the Treasury's engagement with domestic and international investors in UK gilts and with the domestic and international banks who are the primary dealers making markets in gilts. For much of this time I also led the Treasury's interaction with the credit rating agencies. All this activity required me to communicate clearly and credibly and has given me a well-developed understanding of the underpinnings for the UK's overall economic and policy credibility of which the Bank's policy committees are a critical part. It also leaves me well placed to play my part in the Bank's market intelligence framework, including through regular interaction with financial market participants,

Fifth, strengthening the role of independent institutions central to economic analysis and policy-making has been a key theme of my time in the Treasury.

- From 2006 I oversaw the work which led to the Statistics Registration and Service Act which made the UK statistics system independent and established the UK Statistics Authority. In 2015 I recommended an independent review of UK economic statistics, which Charlie Bean carried out, reporting in March 2016.
- In 2010 I had Director-General level responsibility for setting up the independent OBR and in 2015 I led a Treasury review on the OBR's contribution to fiscal credibility. The Chancellor

accepted the review's recommendations to strengthen the resilience of the OBR and enhance its capacity including extending its remit to produce a regular fiscal risks report.

- In 2003 I led the work on the Treasury study of the Policy Frameworks in the UK and EMU, one of 18 analytical studies supporting the EMU Five Tests assessment, focussed on monetary and fiscal frameworks in the UK and EMU. In 2013 I oversaw the Treasury's review of the UK's monetary policy framework, which resulted in the first significant update in the MPC's remit since 1997. I also contributed to Kevin Warsh's 2014 review of transparency supported by the Independent Evaluation Office of the Bank.

Carrying out this work left me in no doubt as to the centrality of setting the right mandate, remit and tools for different types of independent bodies and committees. In particular the 2013 review of the MPC reinforced how important the were the principles of efficiency, credibility and accountability for meeting the Committee's symmetric inflation target.

Sixth, I have been a senior member of various Treasury committees, including the HMT Executive Management Board and the Ministerial Board and I chaired the Diversity and Inclusion Board from 2013. I also chaired the Government Economic Service Board. Externally I led for the Treasury on the UK Statistics Authority Stakeholder Committee and the OBR Forecast Liaison Group. On these I have developed my own position and voice, which is of vital importance on each of the MPC, FPC and PRC.

As for areas for further research, while I haven't previously worked in a private-sector financial institution, I have extensive experience of engaging with market participants, knowledge of the workings of the financial system and of the characteristics of individual institutions. Through the first full round of FPC meetings in September and at my first two PRC meetings I have already begun taking advantage of the cumulative expertise of my new colleagues in the Bank and on the Committees, as well as the depth of knowledge available to me from external commentators, to fill in any gaps in my knowledge.

I have not contributed to a forecasting exercise since the independent OBR took on this responsibility from the Treasury in 2010. So I am looking forward to participating in the November Inflation Report forecast round, which will frame the November MPC decisions.

4. Have you published any research that is relevant to your role as Deputy Governor, Markets and Banking?

- As a civil servant, I have been responsible for or overseen much research, which has been published in the form of Treasury analysis or advice. Much of that analysis and advice is available in key documents published on the following topics:
    - Assessment of the five economic tests for UK membership of the single currency – 2003
    - The role of public finances and the economic cycle – 2008
    - Review of monetary policy framework – 2013
    - Analysis of the implications of Scotland leaving the Union – 2013- 2014
    - Analysis of the economic impact of leaving the EU - 2016.

- I led a Treasury review of the OBR in 2015, which reported to the Chancellor.

- I have also given two public lectures, drawing on personal experience and historical research, the second in my continuing role as a visiting professor at KCL:
    - 'EMU Five Tests Assessment: 10 years on' – 2013
    - 'The first fifty years of the Government Economic Service' - 2015

- In addition to these publications, I have given numerous speeches and talks which synthesise the above and other work.

5. **How will your membership of the MPC, FPC and PRC enhance the diversity of perspectives represented on these committees?**

There are several ways through which I see my membership enhancing the diversity of perspectives on the MPC, FPC and PRC.

My experience on the Treasury Executive Management Board before, during and after the financial crisis and my experience as Treasury Diversity champion since 2013 have reinforced for me the importance of valuing a range of views, cognitive diversity, as well as diversity of approach, profession and background.

My experience in leading the appointment process for the last nine external members of the MPC and then working alongside them in their roles of the MPC has given me a real appreciation of how the external members of the MPC and other committees add significant value and how the Executive members can support this. This has been reinforced at my first meetings of the FPC and PRC.

My very varied Treasury career advising on a wide range of UK economic policies, both in normal and stressed times and the inherent trade-offs therein, has given me an unusually broad set of policy experiences and perspectives.

My belief in the important role of economic policy making institutions and my membership of a variety of committees and boards, as set out in my answer to question 3, has enabled me to challenge successfully the received wisdom, even while being part of the Treasury's senior leadership team.

My responsibilities at the Bank, covered in more detail in my answers to questions 6 to 9 - including management of the Bank's balance sheet; execution of monetary and liquidity policies and financial risk management – provides a different perspective from the other Bank members of the Committees.

Markets and banking

6. What will be your priorities with regard to your responsibilities for markets and banking?

In answering this question, I will first focus on my responsibilities for existing functions and operations in the Markets and Banking directorates, and then turn to the extensive reform and renewal agenda in these parts of the Bank.

Existing functions and operations

In terms of existing functions and operations my overriding priority now and throughout my five year term is to assure myself that the Bank can continue to deliver outstanding execution of all operations I am responsible for, including thoseallocated to me under the Bank's internal application of the core principles of the Senior Managers Regime.

The Markets and Banking areas of the Bank are an every-day presence across a number of vital parts of the financial system, including sterling money markets, the payment system, and foreign exchange markets. The Bank also provides custodial and banking services to key wholesale customers including the Government and other central banks. In all of this the Bank operates to an extremely high standard, and maintains the readiness to act in case of a financial stability need to do so. That includes maintaining readiness to lend to the banking system, and the Bank manages a pool of pre-positioned collateral sufficient to facilitate the provision of over £400bn of liquidity.

I will highlight two examples of operations that I've seen first-hand during my first five weeks in the role. First in late September the Bank successfully completed the latest programme of nine reverse auctions required to reinvest the proceeds from just over £10bn of maturing gilt holdings, in order to maintain the stock of gilts in the Asset Purchase Facility (APF) at £435bn, as determined by the MPC's September policy decision. Second, I have observed the operation of the Bank's Real Time Gross Settlement (RTGS) system, which provides the means by which banks can settle their obligations to one another. This system settles over £600bn per day, facilitating the smooth functioning of everything from securities settlement to salary payments.

Underpinning these operations is a highly professional and developed risk management structure. I was already familiar with some aspects of this structure through my time as Accounting Officer for the EEA. And in many meetings with risk management staff over recent weeks I have been continually impressed by the general commitment to protect the credibility of the Bank's policy decisions by managing financial, cyber, operational, conduct and reputational risks in our operations. I set out more detail on the Bank's 'three lines of defence' approach to risk management in answer to question 8. Suffice to say, maintaining this dedication will be a key priority over my term.

Taking all this together, there is an accumulated expertise in Markets and Banking that is a great resource to the policy committees of the Bank. Bank staff can leverage their expertise and credibility in markets to gain a unique insight into the financial system, by gathering market intelligence and through analysis of the structural changes that drive market moves over the longer-term. In my early meetings of the MPC and FPC I have already seen instances of how this analysis can inform and influence the deliberations of those committees. And I have found the insight of those who risk manage our counterparty exposures to be of real use in considering matters coming to the PRC. Over

my term I want to provide a strong voice for this work on these policy committees, and to maximise the potential for Markets and Banking staff to inform and influence policy across the full range of the Bank's work and in international fora.

Reform and renewal agenda

The most significant single project I am responsible for is the renewal of RTGS, which will improve the resilience and functionality of this critical piece of infrastructure as set out in the Blueprint published by the Bank in May 2017. As detailed in my answer to question 9, the key deliverables of the project will be completed over different phases in the coming years, meaning it will remain a key priority throughout my five year term. A current focus for me is to deliver a robust governance framework for the renewed system. I will be chair of the new Board that will govern both RTGS and the High Value Payment System (HVPS), with a mix of internal and independent external expertise. I am overseeing the process for recruiting the non-executives to that Board, including chairing the selection panel, ahead of its first meeting in December 2017.

The renewal of RTGS is one example of action the Bank has taken to improve the infrastructure and workings of the financial system. Another transformative example from recent years is the Fair and Effective Markets Review, which has had a lasting impact on Fixed Income Currency and Commodity (FICC) markets through, for example, the creation of the FICC Market Standards Board (FMSB) and support for the FX Global Code, which is the first globally accepted common set of guidelines to support the integrity and effectiveness of the foreign exchange market. I intend to ensure the momentum behind this drive to improve the effectiveness of markets continues, working with the FCA, the FMSB, the FSB and other authorities as appropriate.

One important initiative already underway in this area is the reform of interest rate benchmarks– which provide reference rates for a wide range of financial products, including interest rate swaps and corporate loans. As has been discussed by the FPC[1], it has become increasingly apparent that the scarcity of term unsecured deposit transactions poses a risk to the medium term sustainability of Libor benchmarks . The FCA has set out plans to seek to ensure panel banks continue to participate in Libor until the end of 2021[2] in order to ensure its continued availability so as to facilitate a transition to alternative benchmarks. The Bank is doing its part by developing a sustainable alternative to Libor – specifically a reformed Sterling Overnight Index Average – which the Bank will calculate and publish from mid-2018. That rate has already been chosen by a market-led working group as its preferred alternative to sterling Libor. Over my term, the Bank, FCA and market participants will need to continue to work closely together to ensure that the transition away from Libor is delivered in a smooth way.

The coming years will also likely see the financial system undergo significant change as much of the innovation underlying FinTech begins to be widely adopted, supporting the UK's position as a global hub for FinTech. The Bank has been at the forefront of central banks' consideration of what this means for monetary and financial stability. It was the first central bank to launch a FinTech accelerator[3], and has produced or contributed to a wide range of speeches[4] policy reports and

[1]http://www.bankofengland.co.uk/publications/Documents/records/fpc/pdf/2017/record1710.pdf
[2] https://www.fca.org.uk/news/speeches/the-future-of-libor

technical analysis. The next generation of RTGS will be built with the ability to interface with Distributed Ledger Technology, as and when that technology becomes sufficiently mature. Over my term I intend to ensure that the implications of FinTech for achieving the Bank's goals remain high on our agenda.

At the same time much work has been ongoing to reform financial markets, the Bank has also taken great strides to modernise its own practices, including through the development of Our Code and internal application of the core principles of the Senior Managers Regime. The Markets and Banking areas have embraced this change in culture, including by reforming its Market Intelligence gathering process to make clear what is expected of both staff and contacts, and by adding resources and focus to its Anti-Money Laundering and Counter Terrorist Finance work.

Throughout my career I have always endeavoured to create an open and inclusive atmosphere in which colleagues feel they can challenge appropriately and come forward with any concerns they have. In discussions with compliance officers in Markets and Banking, as well as the Bankwide Compliance Division, I have been heartened to hear that staff feel willing and able to do so, and it is something I will encourage over my term.

7. What is your view on the size of the Bank of England's balance sheet, and how do you expect it to change in the future?

My view on the size of the Bank of England's balance sheet has been shaped by my lead responsibility since 2007 for the Treasury's involvement in and responsibilities for monetary and liquidity policy. For me the growth in the Bank's balance sheet since the start of the financial crisis reflects its importance and effectiveness as a tool of monetary and financial stability.

In 2007, the balance sheet was determined by demand for the Bank's liabilities: bank notes and central bank reserves held by banks. £45bn bank notes were in circulation, banks held £26bn of central bank reserves, and the Bank's balance sheet was equivalent to about 7% of GDP.

When the MPC commenced its programme of Quantitative Easing (QE) in March 2009, the key determinant of the Bank's balance sheet switched from being its liabilities to its assets. Specifically, the determinant of the size of the Bank's balance sheet became the quantity of assets purchased as a result of the MPC's monetary policy decisions. These purchases were made by the APF, which is indemnified by the Treasury.

In the intervening period, the APF has remained an important tool of monetary policy. Most recently, it was expanded in August 2016 as the MPC sought to support the economy after the vote to leave the European Union. That brought the total amount of gilts purchased up to £435bn, and expanded the APF to include £10bn of corporate bonds, and the provision of secured loans to the banking system through the TFS. At the end of the last financial year the total size of the balance sheet was £518bn - equivalent to around 26% of GDP.

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[4] See for example "The promise of Fintech – Something new under the sun?" http://www.bankofengland.co.uk/publications/Documents/speeches/2017/speech956.pdf

In the short term it is likely that the size of the balance sheet will continue to be determined by the MPC's asset purchases. The Committee has made clear that it doesn't intend to reduce the stock of assets purchased for monetary policy purposes until Bank Rate has reached a level from which it can be cut materially: a judgement made by the MPC before I was a member, though one I agree with. But it is reasonable to expect that at some point after the process to reduce the stock of assets has begun, demand for bank notes and reserves will again become the marginal determinants of the size of the Bank's balance sheet.

It is impossible to say in advance what the demand for the Bank's liabilities will be at a future point in time, so at this point I do not have a precise view of what the size of our balance sheet will be. But I agree with the broad quantification that has been set out by the Governor and my predecessors in previous exchanges with this committee. That analysis showed that banks' demand for holding central bank reserves will likely be the key driver of the size of our liabilities in the medium term.

I expect demand for those reserves to be higher than before the crisis for a number of reasons relating to banks' use of our facilities for liquidity management. First, chastened by the experience of the financial crisis and consistent with prudential regulation that has been put in place since then, banks have more than tripled their holdings of liquid assets – of which central bank reserves are an important part. Second, reflecting its own experience of the financial crisis, the Bank has overhauled its provision of liquidity insurance. The Bank is now very clearly "open for business", meaning it is willing to lend to a much greater range of institutions and against a much wider set of collateral. This means that at any point in time, usage of our facilities is likely to be higher than before the crisis.

In summary, the future size of the Bank's balance sheet will continue to be determined by its use as a tool for monetary and financial stability. In the short term, the determining factor will be the MPC's judgements on appropriate stock of assets to be held in order to meet its monetary policy aims. Once the stock of asset purchases has begun to decline, the balance sheet will shrink. But because banks can be expected to have a greater demand for reserves for the purposes of prudent liquidity management, it is unlikely to return to pre-crisis proportions.

8. How will you ensure the effective risk management of the Government's foreign exchange reserves, gold custody services and the operation of the real time gross settlement system?

As described in answers to previous questions, risk analysis has been central to many of the major issues I have worked on throughout my career. At the Treasury I chaired the Fiscal Risks Committee, and was a member of the Economic Risks Committee. I believe strongly in the importance of having the right risk governance frameworks in place. I intend to promote and champion risk management in my leadership of the Markets and Banking part of the Bank. I want to build on the existing culture and expertise which puts risk awareness and controls at its heart, and which encourages openness and challenge.

There are inherent risks in operations the Bank undertakes as part of its mission. These can never be fully eliminated. But their effective management and control is facilitated by the comprehensive risk

management framework put in place in 2015 and outlined in the Bank's Annual Report[5]. That framework is based on 'three lines of defence.' The first line of defence is strong directorate-led ownership of risk and controls, which I referred to in my answer to Question 6. This has been enhanced by the creation of an independent second line of defence through a division which provides forward-looking assessment and challenge of financial risks on the Bank's balance sheet, and the creation of a separate central division which aggregates and assesses challenge on operational, compliance, cyber and other non-financial risk. The third line of defence is the Bank's well established Internal Audit function, which I am familiar with from my Accounting Officer responsibilities for the EEA.

This is all brought together at the Bank's Executive Risk Committee, which in turn reports to the Non-Executive chaired Audit and Risk Committee of Court. Court retains overall responsibility for articulating the Bank's risk tolerance and overseeing its risk management framework.

The specific risks inherent in the management of the Government's foreign exchange reserves, gold custody services and the operation of RTGS are varied in nature.

The Government's foreign exchange reserves

As I know from my 10 year stint as the Accounting Officer for the Government's EEA, maintaining foreign exchange reserves requires managing the market, liquidity and credit risks inherent in holding foreign currency assets. The UK reserves are not on the Bank's balance sheet – instead the Bank acts as agent for the Treasury. And there is a well-established set of limits and procedures that has been agreed by the Bank and HMT for managing financial risks. At the core of these is the Service Level Agreement (SLA) which is reviewed annually and covers, amongst other things, the benchmarks which specify the currency and composition of the reserves, and the framework for controlling financial risks.

As stated in that SLA, the Bank's responsibility with regard to risk management of the EEA is to "ensure as far as possible that the risks associated with its management of the EEA are properly identified, evaluated and mitigated." For around 70% of the foreign currency reserves market risk is mitigated by hedging for interest rates and exchange rates, with the remainder unhedged so as to underpin effectiveness. The remaining financial risk is closely monitored by the Bank's Financial Risk Management Division, which remains a variety of models of market risk and liquidity risk, and a comprehensive process for assessing credit risk.

To provide assurance on this process, Bank and HMT officials meet regularly to review performance against parameters set out in the SLA and to consider wider policy and operational issues. The Bank's Executive Director for Markets attests quarterly to HMT's Accounting Officer that the risks have been managed to an acceptable level and in line with the agreed risk management framework. As you would expect, all of this formal reporting is complemented with regular dialogue at a working level.

Gold Custody Services

The Bank currently holds around 400,000 bars of gold in its vaults as custodian on behalf of its customers, with a market value of around £155bn. Because this gold is held on behalf of others, including the Treasury's gold holdings in the EEA, the focus of risk management is operational and reputational in focus, rather than financial.

[5] http://www.bankofengland.co.uk/publications/Documents/annualreport/2017/boereport.pdf

Having visited the gold vaults in my first weeks in the Bank and been briefed on the risk management framework I can verify that these operational and reputational risks are treated with the utmost seriousness. All deliveries of gold are inspected to ensure they meet market-wide standards for fineness, physical condition and weight. The operational risk inherent in managing the vaults benefits from challenge as part of the three lines of defence model. Regular checks of customer gold are undertaken, and customers are permitted to inspect a sample of their gold. As you would expect, security around entry and exit is of the highest standard.

RTGS

My first weeks in the Bank have provided much assurance that the risk management structure in place for RTGS is commensurate with its criticality to the UK's financial system. There is a clear framework of risk identification and monitoring in place, including Key Risk Indicators, a comprehensive risk register and associated mitigating actions and contingency plans. All of this sits within a well-defined risk governance framework, ultimately reporting to the current RTGS Strategy Board[6].

This Board brings together expertise from around the Bank, including technology and operational risk. It thus facilitates broad–based challenge, and ensures that independent challenge of the direct business owners is being heard and aired at a sufficient level of seniority.

I have also been impressed by the Bank's commitment to external challenge. For the past 15 years the Bank has undertaken an annual external audit of its design and operational control framework, which is shared with all users of RTGS. And last year the Bank processes for information security risk management were certified to a globally recognised standard.

The Bank has a strong commitment to cyber security, having invested substantially in technology and information security in recent years, and having assessed its own cyber defences using the CBEST framework applied to supervised institutions. Given my responsibilities I have taken particular reassurance from how seriously the cyber security of RTGS is taken. With regard to RTGS, the Bank's own cyber security and technology teams consult and draw advice from GCHQ, the Centre for the Protection of National Infrastructure, and other cyber experts.

9. How do you intend to take forward the RTGS Renewal Programme? What are your key concerns about overseeing this project?

The blueprint for the renewal of RTGS published in May this year set out the key features of the next generation of RTGS. The renewal will ensure the core of the UK's payment system is able to adapt to developments in FinTech and the world of payments more generally, while prioritising resilience to maintain the extremely high standard of service availability of the existing system.

Those features include: broader access to those beyond the traditional banking sector; greater interoperability with other payment infrastructures giving users more flexibility to reroute payments; further strengthening resilience by introducing the ability to accept payment messages from multiple sources; improved functionality such as the capability to provide near 24x7 availability;

[6] In December the RTGS Strategy Board will be replaced by a new board, as mentioned in Question 6, with combined oversight of RTGS and the HVPS.

strengthened end-to-end risk management as the Bank takes on direct delivery of the HVPS, addressing the financial stability risks inherent in thecurrent split of responsibilities between the Bank and the private sector firm CHAPSCo.

Many of these initiatives are well underway. The Bank announced in July that non-bank payment service providers are now eligible to apply for a settlement account in the Bank's RTGS system – thus allowing a new generation of payment firms to compete with the traditional incumbents on a more level playing field. The process of bringing the HVPS into the Bank is well underway – due diligence has been completed, terms have been agreed, and we are on course to have completed the transfer of CHAPSCo to the Bank by the end of the year, in line with the timetable envisaged at the time of announcement.

But, as you would expect given the importance of maintaining current high standards, many of the key changes to functionality and interoperability will only become available over the coming years. The project to implement those changes is in its 'Plan-Analyse-Design' phase, and the project team is currently focussed on design choices which will define the scope of future changes. The intention is for the majority of new functionality to be live by 2020.

The overarching goal of RTGS renewal is to improve financial stability by delivering a more resilient, flexible and innovative sterling settlement system. By doing so, we will help ensure the UK remains a world-leader in payment systems. It will be important to get these changes right. In delivering long term improvements in functionality and resilience, we need to avoid short term disruption to operations and maintain resilience.

As such, the RTGS renewal programme benefits directly from the risk management framework I set out in my answer to Question 8. In addition to that, I would draw attention to several other features of our project programme which are intended to mitigate any disruption.

- First, to mitigate any risk to our existing operations which settle over £600bn every day, the RTGS renewal project is being designed and built by a project team separate from but in close consultation with the live operations team.

- Second, the project is being carefully managed in a way commensurate with its scale and complexity. The programme management and delivery team contains a blend of internal and external staff, and the governance structure has been well defined. Importantly, as the May 2017 Blueprint emphasised, we are not adopting a 'Big Bang' approach and the new features will come on stream in a phased and controlled manner.

- Third, we have ensured there is an ongoing and effective dialogue between the Bank and other stakeholders of the RTGS renewal programme. An External Advisory Body has been formed to provide a senior forum to gather informed views on all aspects of the programme from a cross section of experienced stakeholders. This is in addition to the recruitment of external members for the new RTGS/HVPS board described in my answer to Question 6.

Prudential Regulatory Authority (PRA)

10. **How will you ensure that the PRA can operate independently from not only external political pressure but also internal group think within the Bank?**

    As set out in my answer to question 3, setting up and developing independent institutions has been a key part of my responsibilities as Chief Economic Adviser to HM Treasury. As such the ability of authorities to operate independently from political pressure or from group think is something I care deeply about. Indeed, doing so is core to retaining the credibility and legitimacy of the UK's economic policy framework.

    In common with many independent bodies, two key design features of the PRA contribute to ensuring it can operate without succumbing to external political pressure or internal group think.

    - The first is a set of clearly defined objectives: to promote the safety and soundness of the firms it regulates; to contribute to the securing of an appropriate degree of protection for those who are or may become insurance policyholders; and a secondary objective to facilitate effective competition in the markets for services provided by firms the PRA regulates. These objectives are clearly distinct from those of the FPC or the MPC. And on the basis of my first PRC meetings I can say that they underpin every paper that I have seen brought to the Committee for discussion, and every decision that is subsequently taken.

    - The second is the existence of a strong set of external members of the PRC. These external members are clearly experienced in their respective fields, have the respect of PRA staff, and are able to engage in in depth discussion and challenge. To that I intend to bring my own views, including the insight I gain from the work ofthe Bank's Markets and Banking directorates, whose risk management decisions taken in the course of our operations can provide a unique perspective.

    More generally, throughout my career at HMT I strived to create an inclusive atmosphere that would foster independence of thought and appreciation of difference. I believe firmly that all levels of a successful organisation should challenge and be challenged.

11. **What do you see as the key risks to the PRA's objectives?**

    See my answers to Questions 17 to 20, and 23 for my assessment of the risks to the economic outlook and financial stability. Were any of those risks to crystallise, it would make for a more challenging environment in which to meet the PRA's safety and soundness and policyholder protection objectives. Nevertheless I believe the PRA has in place the right frameworks and tools to be able to do so. More generally, the clarity of the PRA's objectives and strength of its independence mean that it will remain committed to the implementation of post-crisis reforms and the upholding of robust prudential standards, even as the memory of the crisis begins to fade.

The coming years are set to bring a general period of change for the financial system as FinTech innovations become widely adopted. This will bring with it the potential for changes to Banking and insurance business models, and the need to closely manage increased cyber and operational risk. There are two other ongoing changes that will re-draw the landscape of firms that the PRA regulates, and hence deserve specific mention here as potential risks to the PRA's objectives.

- The first is ring-fencing, a key structural reform which will improve financial stability by requiring certain core services banks provide to be placed in separate legal entities. In the short term there are substantial operational tasks to be completed to ensure banks are ready for implementation on 1st January 2019. The responsibility for meeting this deadline largely lies with the banks. But there is also a large programme of work to be done by the PRA, including, for example, the authorisation of the three largest new banks ever created in the UK.

- The second is the likely re-structuring by firms to mitigate risks to their business from Brexit. The PRA has received over 400 responses to a letter from its CEO Sam Woods requesting information on their contingency plans around withdrawal from the EU. An initial assessment was included in the CEO's response[7] to the Chair of the Treasury Committee's letter of 24th July. Detailed discussions with firms are ongoing, but early indications are that the PRA will be responsible for the authorisation and ongoing supervision of a significant number of additional firms.

Finally I would note that, as Solvency II becomes business as usual, insurance supervisors are switching their focus from implementation to ensuring they understand the consequences for risk-taking by insurers. While Solvency II will be strongly net beneficial as a whole, any new regulatory regime will have unintended consequences. And the PRA will need to be alert to what they imply for managing, for example, longevity and credit risk.

All of these changes pose challenges of prioritisation and focus for the PRA. But my initial weeks have provided me with every confidence that those challenges will be risen to.

12. Are there any additional regulatory, supervisory or policy tools which you think it would be useful for the PRA to have?

In my judgement, at this early stage of my term, the PRA has sufficient tools to be able to meet its objectives, and sufficient scope to use them. Those tools include: the authorisation process, the setting of individual capital and liquidity requirements for firms, the ability to commission reports by 'Skilled Persons' under Section 166 of the Financial Services and Markets Act 2000 (FSMA); the power to approve or not approve models used by firms adopting the Internal Ratings Based (IRB) approach to risk weighting, and for setting capital requirements under Solvency II; the ability to impose financial penalties via enforcement powers; and the ability to hold individuals to account through the Senior Managers, Senior Insurance Managers and Certification Regimes.

[7] https://www.nickymorgan.org/sites/www.nickymorgan.org/files/2017-08/Woods%20to%20Morgan%20Letter.pdf

13. **Is there a case for greater transparency from the PRA, for instance through the publication of PRC minutes, or the disclosure of supervisory information?**

Throughout my career I have been an advocate of transparency as one of the key principles that underpins economic policy institutions and frameworks. In the case of monetary policy, for example, transparency allows businesses and consumers in the economy to learn how policymakers will react to different shocks. This anticipation of policymakers' response ultimately cushions the overall impact of the shock, thus making the policy all the more efficient.

In the specific case of the PRA and PRC this benefit from transparency must be balanced against the PRA's statutory obligation to avoid disclosing confidential information that it has received in the course of its supervisory functions. Indeed this tension was recognised by Kevin Warsh, in his 2014 review 'Transparency and the Bank of England's Monetary Policy Committee', which was supported by the Bank's Independent Evaluation Office.[8] He concluded that "grafting the MPC transparency reforms onto the PRA would be ill-advised" as it could undermine the process of reaching sound policy decisions on individual firms if internal deliberations were made public.

There are, however, other channels through which the PRC is transparent. Like MPC and FPC members, PRC members appear before parliament to account publicly for their actions and decisions – an important part of maintaining the Committee's legitimacy. The PRA has long published 'Statements of Policy' which set out how it will apply its supervisory approach. And in recent years the PRA has taken further steps to improve transparency, for example by allowing banks to disclose their Pillar 2A requirements, and through the publication of detailed results for the annual concurrent stress test. Indeed, it is my expectation that because the stress test allows the comparison of the supervisory reaction function across firms and over time, participants will be able to anticipate the PRC's behaviour and take action in advance accordingly – thus improving the efficiency of the policy.

Taking all this together, for now I judge the level of transparency from the PRA to be appropriate.

14. **What are the implications of the Bank of England and Financial Services Act 2016 for the PRA, and in particular the requirement for the PRC to have regard to recommendations made by the Treasury?**

As well as de-subsidiarisation and the replacement of the PRA Board with the PRC, the Bank of England and Financial Services Act 2016 introduced a new requirement for HM Treasury, at least once in each parliament, to make recommendations to the PRC about aspects of the government's economic policy to which it should have regard when considering how to advance its objectives and when considering the application of the regulatory principles set out in FSMA.

Having worked for many years on the process of setting the MPC's remit, a process which provides further guidance to the Committee on how it should apply itself is a familiar concept. Given that the overarching reason for the Bank having micro-prudential supervision is to contribute to

[8] http://www.bankofengland.co.uk/publications/Documents/news/2014/warsh.pdf

macroeconomic stability, a letter from the Chancellor setting out aspects of the government's economic policy to which it should have regard is a helpful reminder as to how the PRC's work fits into the Government's broader economic policy.

There are some important points to note, however. Unlike the FPC and MPC remit letters, which are used to provide further articulation to the objectives set for those Committees in statute, the PRA recommendation letter does not specify, explain or interpret the meaning of the PRA's objectives under FSMA. Ultimately, the PRA is accountable to parliament for meeting those objectives, and it must give them primacy in order to maintain its legitimacy. As such, although the PRC should give appropriate attention to the matters to which the letter directs its attention, if there were ever a tension with the PRA's objectives, the PRC should retain its focus on delivering the objectives given by Parliament, including the secondary competition objective (see answer to question 16).

The first of these letters, sent in March 2017, specified that when the PRC considers how to advance the objectives of the PRA and apply the regulatory principles it should, where relevant and practical, take into account the government's policies on competition, growth, competitiveness, innovation, trade and consumer outcomes. As a result the PRC should have regard to these issues, and give appropriate weight to them when making its decisions.

And many initiatives underway in the PRA are directly supportive of these policies. For example the establishment of a New Bank Start-up Unit to help prospective new banks enter the market. As are the proposals published earlier this year to refine the PRA's approach to Pillar 2A add-ons for banks and building societies using the standardised approach for credit risk: typically the smaller banks. The PRA has also published proposals that make clear that it welcomes applications from challenger banks to use internal models – addressing a previous misperception.

These initiatives are good examples of policies that will both support the government's policies and promote the safety and soundness of firms. By reducing the gap in risk weights used by firms currently on the standardised approach and those using internal models, they should facilitate competition in the banking sector. At the same time they will promote the safety and soundness of firms by reducing incentives for firms using the standardised approach to specialise in riskier lending.

15. The Chancellor made recommendations to the PRC in its letter to the Governor in March 2017. In your view, how can the PRC best take these recommendations forward?

See my answer to Question 14.

16. How should the PRC balance its objective to promote the safety and soundness of the firms it regulates against its secondary competition objective?

FSMA provides a high level starting point for how the Bank should balance its objectives. It states that 'When discharging its general functions in a way that advances its objectives, the PRA must so far as is reasonably possible act in a way which, as a secondary objective, facilities effective competition in the markets for services provided by PRA-authorised persons in carrying on regulated activities.'

This statutory requirement to facilitate competition, in addition to prudential objectives, is believed to be unique to the PRA amongst international regulators. My initial impression is that the PRA has established a comprehensive approach to embedding it into how firms are regulated, with many initiatives following directly from a review published by the Bank's Independent Evaluation Office in early 2016. A respected academic, Paul Grout, now acts as a Senior Adviser to the PRA on competition. Several working papers and blogs have been published on the topic, and a number of conferences and seminars have been held. And there is a clear appreciation that by reducing reliance on single nodes in the financial system, competition and financial stability can be complements.

More tangibly, the view of an independent Competition and Impact Assessment team is incorporated in all the relevant policy issues taken to the PRC. And their impact can be seen in the initiatives outlined in my answer to Question 14, which are intended to ensure proportionality in the PRA's approach and facilitate competition.

Monetary policy and the wider economy

My answers to questions 17-22 reflect my ongoing assessment of UK economic developments before, during and after the September MPC round, which was my first as a voting member.
As Treasury representative at the time of the August MPC round I did not contribute to the August 2017 Inflation Report forecast but I am comfortable with the broad contours of the forecast out to 2020, the main assumptions underlying it and the key judgements which drive the forecast.

In addition to the answers below I would be happy to provide more details on the thinking behind my vote at the September MPC at my appointment hearing with the Treasury Committee and I will not be making any public comments in advance of that.

17. Which do you think are the most significant risks to the outlook for the UK economy?

I think the three most significant risks to the outlook for the UK economy are: continued weakness of productivity growth in the short and longer term and the limits this places on supply; the potential for weakness in domestic demand; and the challenge of securing a return of inflation sustainably the 2% target. Brexit will play an important role in determining how each of these risks plays out. I will cover demand in my answers to questions 18 and 19, inflation in my answer to question 20, so the remainder of this answer will focus on productivity. Although monetary policy cannot have a first order impact on productivity, understanding its evolution is vital for understanding the degree of spare capacity in the economy and hence the outlook for inflation.

The most striking features of UK economic performance over the last ten years have been the weakness of productivity growth and the associated weakness of living standards and real wage growth. UK productivity, measured by output per hour worked, in 2017Q2 is around 20% per cent below where it would have been if the trend up until 2007 had continued. Even allowing for some unsustainable froth in the pre-crisis growth trend in financial services and energy, annual productivity growth has been much weaker on average over the past 10 years when compared to its pre-crisis average. Real wage growth has been the weakest over a ten year period since the middle

of the 19th century[9]. And GDP per capita, a proxy for living standards, is 3% higher now than it was a decade ago.

I agree with what the Bank and the OBR identify as the main factors contributing to the shortfall in productivity – resource misallocation, labour hoarding, weakness of investment and mismeasurement – but there is no consensus on the relative magnitudes of the factors and genuine uncertainty as to how much they can explain. The UK's future productivity growth performance will be the key determinant of what the UK's sustainable level of growth is, and hence will also be a key determinant of prospects for monetary policy and the public finances.

The Bank's August Inflation Report forecast assumed a modest pick-up in GDP growth at the start of 2018, underpinned by a pick-up in productivity growth, alongside a slow-down in employment growth and in hours worked. Over the forecast annual productivity growth was expected to pick up to around 1.5%, well up on its current level but still considerably weaker than its pre-crisis average of around 2%. This slower 'speed-limit' on capacity is still sufficient to allow for some growth in demand, alongside a return towards target of CPI inflation, which was expected to be 2.2% by the end of the forecast.

Productivity growth not picking up as forecast is the biggest risk I see to the outlook. And it wouldn't be a new development. In recent years Bank and OBR forecasts have often had to be revised down, in the face of the weakness of actual productivity growth and a developing understanding of the drivers of weak productivity.

In turn, Brexit will be a key determinant of the path for productivity. There are generally considered to be two main channels through which Brexit could contribute to UK productivity performance. First through its impact on business investment – both via uncertainty and through FDI – which could lead to a less deep capital stock than otherwise. And second through the impact of a change in the UK's openness to its trading partners on the efficiency through which capital and labour are utilised, or total factor productivity.

In the longer term the great majority of studies of the impact of Brexit have concluded that the UK's economic performance will be negatively affected by leaving the EU. But the extent of any deterioration will depend on the end-state trading relationship the UK Government negotiates with the EU, and further out the outcome of new trade deals that the UK negotiates and the opportunities they bring. The Prime Minister has recently reiterated that the UK will seek a deep and comprehensive free trade deal with the EU and an implementation period to smooth the transition to that new relationship.

In the shorter term, at least over the horizon of the MPC forecast out to the middle of 2020, the impact of Brexit on productivity will be negative. The August IR forecast already projects that business investment while growing modestly, will be 20 per cent lower by the end of the forecast period than it would have been if the UK had stayed in the EU. This is at a time when business

[9] As referenced in 'The Spectre of Monetarism' speech by Mark Carney: http://www.bankofengland.co.uk/publications/Documents/speeches/2016/speech946.pdf

investment growth is picking up materially in many other advanced economies, and financial conditions are supportive.

My concern is that business investment and other factors could have a bigger impact on productivity growth and supply capacity over this period than currently assumed in the forecast. Equally, the shortfall in investment could be more significant, impacting on demand, which I will return to in answering question 19.

18. Following the referendum, the economy has outperformed the Bank's initial forecasts. Why do you think this is?

I had no involvement in the Bank's initial forecasts produced after the referendum on EU membership, and published in the August 2016 Inflation Report. So I have kept my answers relatively broad-brush and I have taken into account for comparison the ONS' latest data for the period, published in the Quarterly National Accounts on 29 September 2017.

Before running through the various factors it is important to stress that when assessing the impact of an event such as the UK's decision to leave the EU, what matters most is not what the Bank or MPC thinks is going to happen but our understanding of what households, businesses and markets who make up the economy think is going to happen, as their actions will determine how the economy evolves through this period. Their actions will be influenced in part by the decisions of the MPC and the Bank's other policy committees. But the decisions the Government makes in negotiating the UK's withdrawal from the EU, any implementation period, and the future trading relationship with the EU, will have a much bigger bearing on the behaviour of households and firms and the evolution of the economy. In this regard the fact that the Government did not immediately trigger Article 50 is material. As is the fact that the Bank made very clear immediately after the referendum result that it had made contingency plans for the referendum outcome in case of such an eventuality, to ensure financial stability.

The MPC's August 2016 IR forecast projected growth of 0.6% in the year to 2017Q2, whereas the latest ONS release estimates growth was 1.5%, 0.9pp stronger. Without doing a full diagnostic exercise I think five factors help explain the difference.

- First the Bank's near-term forecasts in each Inflation Report are based on nowcast models which historically perform well in predicting short term GDP growth. These are based on a range of indicators but at the point in the data cycle of the August 2016 Inflation report they were necessarily heavily reliant on the available business survey data. Back in July 2016 the main survey data were the CIPs business surveys which had fallen sharply from their June levels; the output and expectations balances were actually pointing to a fall in output which I am aware the MPC aimed upwards of. On the importance of this factor, I note that most of the 0.9pp outperformance in the past year relative to the MPC's forecast can be accounted for by the first two quarters: the Bank forecast 0.1% growth in 2016Q3 and Q4, the ONS's latest estimates are that growth was 0.4% and 0.6% in those two quarters.

- Second, the global economy has picked up more strongly than expected at the time of the referendum. At the same time the UK economy has slowed and as a consequence, the UK has moved from being at or near the top of the league table of G7 economies in 2014, 2015 and 2016 to near the bottom in the year to 2017Q2. Stronger world trade and investment has provided a more benign backdrop for the start of the adjustment the UK economy has to go through.

- Third, the impact of policy may be higher during times of when the outlook is uncertain. For example, the initial impact on asset prices of the MPC's policy package announced in August 2016 was greater than had been anticipated, meaning it may have had a faster or stronger effect on the real economy. Other policy action was taken by the Government, who signalled very soon after the referendum that the pace of fiscal consolidation would be eased. And, as measured by the national accounts, Government consumption and investment has made a small positive contribution to growth over the year to 2017Q2.

- Fourth, the resilience of consumption since the referendum has been a surprise and highlights how limited is our understanding of the impact of uncertainty from leaving the EU on household behaviour. Three possible effects are worth highlighting. First, measures of uncertainty appear to have risen by less and have had less of an impact on the housing market and consumer spending than had been anticipated. Second, households seemed to react more slowly to weaker real income growth than had been expected. Third, although the evidence is not clear cut, it may be that households have responded to the prospect of temporarily higher inflation in the future by bringing forward spending.

- Fifth, business investment growth, while modest, has also been more resilient than expected. Like consumption, it was initially less restrained by uncertainty than had been anticipated. It has probably also benefited from a smaller decline in the price of commercial property, which forms an important source of collateral.

19. To what extent do you expect net trade and investment to compensate for slower consumption growth?

One of the key MPC judgements underpinning the Bank's August Inflation Report forecast was that there would be a rotation of demand away from consumption and towards net trade and business investment. Given that forecast is conditioned on expectations of a smooth transition to any new trading arrangements, that seems a reasonable starting point to me. Following the depreciation of sterling exporters should be able to expand their output, in particular as the world economy continues to grow robustly. And business investment should be supported by the low cost of capital and high rates of return available, at home and globally.

Indeed, the latest vintage of ONS data provides more reassurance that the rotation may already be happening. In Q2 consumption growth slowed to 0.2%, business investment growth picked up to 0.5% and net trade contributed 0.4%. Overall final domestic demand grew by 0.3%, the same as GDP growth and both broadly in line with the Bank's IR forecast.

However, over the fifteen months since the referendum it has become much more widely understood that the process of leaving the EU will be complex – with implications for the degree of uncertainty that businesses and households are going to have to cope with. There are signs that this uncertainty is now weighing on business activity – with the Bank's Agents reporting that some larger firms and those more exposed to a change in trading arrangements have been delaying medium and longer-term investment plans. I see a real risk that as a result of the process of Brexit and the evolving uncertainties around it, business investment could turn out weaker than in the central forecast. If this were to happen then business investment growth would not necessarily compensate for sluggish consumption growth over the forecast.

A counter to this downside risk is the potential for consumption growth to recover more strongly. Although consumer confidence has fallen, it remains close to its long-run average rate. Retail sales volumes have risen and housing market data has been slightly firmer of late. Consumers surprised us with their resilience in the immediate aftermath of the referendum, and they may do the same again over the forecast horizon as the trough of the squeeze in real incomes passes.

It is worth noting the issues with the quality of some UK economic data, as this is particularly pertinent to this question. Charlie Bean drew attention to issues with UK trade data in his independent review of UK economic statistics, published in March 2016. While these problems are being addressed as a priority by the ONS trade data have still not regained their National Statistics status, which they lost in 2014. The quality of business investment data is better – there is no pattern of bias in revisions as there is with the early vintages of the trade data – but the data are still prone to significant revision. For me this underlines the importance of the survey and intelligence work done by the Bank's Agents as a supplement to the official data and other surveys.

20. What would be the limits to your tolerance for above-target inflation, and what indicators would you use to assess whether monetary policy needs to be tightened?

Limits to my tolerance for above-target inflation will be framed by the MPC's remit. Since the remit was updated in 2013 it explicitly allows for exceptional circumstances to be taken into account when major shocks hit the economy, creating a trade-off between the speed with which inflation can be brought back to target and the variability of jobs and economic activity.

The UK's decision to leave the EU provides just such a set of circumstances. The impact on prices and inflation as the economy adjusts to new trading, investment and other relationships will be determined by the interplay between demand, supply, what this implies for the degree of spare capacity or slack in the economy, and movements in the exchange rate.

The effect of Brexit is already apparent in the headline inflation data. The rate of increase of CPI has risen sharply over the last 18 months. In August it stood at 2.9%. All of the increase above the 2% inflation target can be attributed to the decline in sterling; at the time of the September MPC meeting it was 19 per cent below its peak at the end of 2015. The recent increases in oil and petrol prices make it likely that inflation will rise above 3% in October requiring an open letter from the

Governor to the Chancellor.

Measures of domestically generated inflation are consistent with there still being some slack in the economy: they generally remain a little below levels consistent with the 2% target. Despite continued robust growth in employment there is no sign of second round effects onto wages from higher recent inflation. Earnings growth has seen some pick up when comparing the latest three months on the previous 3 months, but year-on-year growth is little changed of late. Inflation expectations appear well anchored, despite the sharp rise in headline inflation, which is evidence of the ongoing credibility of the Bank's inflation target and remit.

Looking forward I will form my assessment from one MPC round to the next taking account of developments on the economy. The collective assessment of the Committee as set out in the August Inflation Report will be a good starting point from which to update the inflation forecast for the news and developments since then. As it will be my first forecast round I will take a keen interest in the judgements and assumptions made along the way.

The areas I will pay particular attention to are consistent with the risks I have highlighted in my previous questions. The supply side of the labour market and developments in productivity will have important implications for the sustainability of the recovery and for unit costs. Judgements about the degree of spare capacity and the relationship with wages will also be key. I will continue to look for signs of the forecast slowdown in employment, and for signs of the forecast pick-up in productivity and wages. In addition to data, I will scrutinise closely survey indicators of expectations and intelligence from the Bank's network of 12 national and regional Agents.

I will also be alert to any further evidence as to how much Brexit-related uncertainty is already weighing on domestic demand. Leaving the EU is a multi-dimensional process rather than a single event, and the coming months are going to be crucial ones for the Brexit negotiations. Were developments in negotiations to give confidence that a deal could be struck and a disorderly exit avoided, it could buttress demand in the economy by reducing the probability attached to tail risks.

21. **What is your assessment of the effectiveness of the policy of quantitative easing in the UK? What, in your view, have been the principal drawbacks of quantitative easing, and what are the principal challenges of unwinding it in the future?**

As Chief Economic Adviser I made the case for the efficacy of QE to three successive Chancellors (first in 2009, then 2011, and most recently in 2016). Over the period since its introduction in 2009, unemployment has fallen from a peak of 8.5 %, to a 40-year low of 4.3%, and inflation has averaged 2.2%. Without QE those outcomes would have been worse – unemployment would likely have been higher and more persistent, and inflation would likely have had an even more consequential undershoot of its target.

There is a body of evidence now supports this conclusion[10], though the precise quantification is necessarily uncertain. Event studies offer a useful way of gauging the first step in the transmission of QE through its impact on financial markets and asset prices, and these show that when announcements are made about QE they have a discernible impact. For the UK, Joyce et al estimate that the MPC's first wave of asset purchases, cumulatively worth £200bn, led to an average fall in 5 to 25 year gilt yields of about 100bps. Evidence for the US that $600bn of the FOMC's purchases tended to lower the yield on 10-year Treasury bonds by 15-25 bps, roughly the same-sized move that would have been expected following a 0.75-1pp cut in the Federal Funds rate[11]. And research for the euro area shows find that euro area sovereign yields fell by 30-50bps following the announcement of the ECB's asset purchase programme.[12] Encouragingly, the impact of the most recent round of QE appears to have been in line with historic estimates.

As investors rebalance their portfolios following the initial round of purchases, it tends to lower the cost of capital for firms, boost activity in the economy, and generate inflation. Summarising across a range of different methods for estimating the macroeconomic effects of QE, Joyce et al (2011) go on to conclude that £200bn of QE may have raised the level of real GDP by 1½% to 2% and increased inflation by ¾pps and 1½pps. More recent time series work by Weale and Wieladek (2016)[13] found a qualitatively similar result: using monthly data from 2009 to 2014 their analysis suggests that asset purchases worth 1% of GDP (around £18bn) lead to an increase in real GDP of 0.25%, and inflation of 0.32pp.

Like all monetary policy, QE can have short-term distributional impacts as those who initially own assets tend to be the first to benefit. But the ultimate impact on distribution is more ambiguous: as economic activity increases, employment and incomes also pick up meaning that the benefits are spread more evenly throughout the economy. At a high level, the intuition that the ultimate benefits of QE are spread more evenly than its initial impact is borne out by the aggregate distributional statistics[14]. The standard Gini Coefficient of income inequality in the UK has declined since 2009. The picture for the distribution of wealth is more mixed, but the estimates of the wealth Gini Coefficient suggest that it has been broadly flat in recent years.

And like all monetary policy, QE has its limitations. As I set out in my answer to question 17, productivity is ultimately the long run driver of income, wealth and prosperity in the economy. And the weakness of productivity since the financial crisis is the key reason why real income growth at an aggregate level has been so weak over that period. The MPC has used QE as a tool to meet its objective of maintaining price stability, and the Committee has neither the remit nor the toolkit to

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[10] As recently summarised in Haldane, A., Roberts Sklar, M., Wieladek, T. and Young, C. (2016) 'QE: The story so far', Bank of England Staff Working Paper No. 624

[11] Williams, J. (2014). "Monetary Policy at the Zero Lower Bound: Putting Theory into Practice". Hutchins Center on Fiscal & Monetary Policy at Brookings.

[12] Altavilla, C., Carboni, G,. and Moot, R. (2015). "Asset purchase programmes and financial markets: lessons from the euro area". ECB Working Paper 1864.

[13] Weale, M. and Wieladek, T. (2016). "What are the macroeconomic effects of asset purchases?," Journal of Monetary Economics. Volume 79, May 2016, Pages 81-93.

[14] As set out in a letter from Ben Broadbent to the Treasury Select Committee in March 2017: http://www.parliament.uk/documents/commons-committees/treasury/Correspondence/Ben-Broadbent-BoE-post-2008-UK-monetary-policy-6-4-17.pdf

materially improve productivity over the long run.

Because QE is a monetary policy tool, decisions about the pace and timing of any reduction in the stock of asset purchases will be a decision for the MPC. Given my particular responsibilities for Markets and Banking, when the time does come to unwind QE, it will be a priority of mine to ensure this reduction is done in a manner that ensures the gilt market continues to function smoothly. For example, although the decision to reduce will be taken solely by the MPC, I will closely liaise with the DMO if considering any programmes of active sales. This commitment to minimising disruption would be a continuation of existing policy with regards to gilt purchases – with the Bank already having taken market liquidity into consideration in sizing its individual operations, and in making its gilts available for lending via the DMO's repo facility. Finally, as you would expect, I will watch with interest as the FOMC embarks on its programme of gradual reduction of the Federal Reserve's balance sheet, and seek to apply any lessons learned for our own operations.

22. Do you think we have moved to a permanently lower equilibrium interest rate? What are the consequences of this?

Since this issue came to the fore in 2013[15], a considerable body of research has been built up by the Bank and others, from which I draw five conclusions.

First, the equilibrium real interest rate (that which would keep inflation close to target and maintain demand in line with supply) has fallen a lot over the last thirty years. In the UK, the average short term real interest rate since 2010 - a period over which demand in the economy has not exceeded supply, and inflation has on average been close to its target - has been around 7pp lower than the average over the 1980s.

Second, this is an international phenomenon. Building on the work of King and Low (2014)[16], Rachel and Smith (2015)[17] show that a global measure of the real rate – a useful guide to how the global equilibrium rate behaves – appears to have declined by around 450bps in the three decades starting in the mid-1980s. It is worth noting that the global equilibrium rate is only one building block of the rate that will equilibrate supply and demand in the UK economy. That will also be influenced by local factors.

Third, some of the explanations for why the equilibrium rate has declined will be very persistent, even if one couldn't go as far as to say they are permanent. For example the demographic effects that have seen an increase in the share of the global population in high-saving stages of life will likely continue to put downward pressure on the equilibrium rate for some time to come. I would note, however, that some of the factors which are currently weighing on the equilibrium rate are cyclical – such as heightened risk aversion in the wake of the financial crisis. These cyclical forces can be expected to unwind as the cycle matures.

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[15] For example, see "The spirit of the seasons" speech by Mark Carney in 2013 http://www.bankofengland.co.uk/publications/Pages/news/2013/184.aspx

[16] King, M. and Low, D. (2014) 'Measuring the world real interest rate', NBER Working Paper No. 19887.

[17] Rachel, L. and Smith, T. (2015) 'Secular drivers of the global rea interest rate.'

Fourth, there are important implications for the setting of monetary policy. The equilibrium real rate is an important (though not the only) determinant of the optimal policy rate. Had global official policy rates not tracked the move lower in the equilibrium rate over recent years, outcomes would have been significantly worse. The recession would have been deeper, unemployment would have risen by significantly more, and there would have been a much greater risk of getting stuck in a low inflation trap.

Fifth, there are important implications for financial stability policy. The FPC has a role to play in ensuring that the financial system would be able to withstand a rise in interest rates, even though future increases are likely to be limited and gradual. It has a track record of doing so through, for example, its 2014 housing recommendations, and we will learn more from the results of this year's Annual Cyclical Scenario stress test, in which Bank Rate increases to 4%.

At the same time, the FPC must also be alert to the risk that low long term interest rates may tell us that, amongst all of the potential explanations for low long term interest rates, market participants attach some weight to low growth outturns persisting into the medium term. This could have implications for the sustainability of debt, increase the chances of a correction in asset prices, or undermine the sustainability of banks' business models. These risks will be addressed in the forthcoming Annual Cyclical Scenario and Biennial Exploratory Scenario stresses respectively.

Finally I note that work in the Bank and elsewhere to deepen our understanding of the decline in the equilibrium rate and its persistence is ongoing.

<u>Financial stability</u>

23. What do you view as the main threats to UK financial stability at present? What other risks would you wish to monitor closely in the future?

There are two threats to UK financial stability that I would draw attention to at the moment, in addition to the risks I have already flagged. Given their nature and my responsibilities in the Bank, they are also the tail risks I wish to monitor closely in the future.

The first is a vulnerability that arises from the current mix of elevated asset prices, low long-term interest rates and the build-up of debt around the world. Looking across a range of UK and overseas markets, including residential and commercial property markets, and equity and corporate debt markets, we can observe valuations that seem elevated relative to historical experience. One justification for these elevated asset prices is that low long-term interest rates mechanically increase the present value of cashflows from risky assets, thus justifying higher prices today.

My concern, however, is that current valuations may include this mechanical effect, but not allow for the possibility that low long term interest rates are giving us an indication that growth, and hence future cashflows on risky assets, will be lower in the medium term than historical experience. If that is the case – and as set out in my answer to Question 22 it is only one of a number of possible explanations for low interest rates – then current valuations in asset markets may appear stretched.

Set against that risk is the resilience that has been built into the financial system by past actions taken by the FPC. On the basis of the 2016 stress test, for example, the banking system is sufficiently well capitalised to withstand severe decline in asset prices – including a 31% decline in house prices and a 43% decline in equity markets – but maintain its ability to lend to the real economy.

The second risk is that arising from Brexit, in particular the potential for a disorderly withdrawal from the EU. With my markets and banking responsibilities, I am particularly aware of the risk of dysfunction in key parts of the financial system, including the derivatives market. For example, if UK and EU banks lose their ability to perform regulated activities in each other's markets, they may not be able to undertake actions which are not unusual in the lifecycle of a derivative, such as the exercise of an option or trade compression. Tens of thousands of counterparties could be affected in total, representing around a quarter of both UK and EU client uncleared derivative contracts .

The FPC is fulfilling its role in identifying and monitoring the financial stability risks from Brexit, and aiming to promote an orderly adjustment to the new relationship between the UK and the EU, by overseeing contingency plans to mitigate risks to financial stability, even if the mitigating action in many instances falls to others to take.

24. What do you regard as the strengths and weaknesses of the work undertaken by the Financial Policy Committee?

The analytical framework the FPC has put in place is one of its great strengths. To fulfil its responsibility to identify and monitor systemic risks, the Committee receives detailed briefing on, and has discussions of, the full breadth of the financial system covering markets, institutions and infrastructure. And that analysis is apparent in the varied themes of the Committee's statements and the Financial Stability Report.

The other great strength of the FPC is the range of tools available to the Committee – allowing it to fulfil its responsibility to take action to remove or reduce systemic risks. The FPC is responsible for setting the UK Countercyclical Capital Buffer rate (CCyB). It can direct the PRA or FCA to take other action, by, for example, setting sectoral capital requirements or by applying loan to value, debt to income or interest coverage ratio limits to residential mortgages. For all of these tools which allow the FPC to act directly, the Committee is required to set out clearly how it would use them. This it does in a series of 'Policy Statements', which help improve understanding of how the FPC might react to future developments.

The FPC also has the broad power to make recommendations to anybody, with a special power to make recommendations on a comply or explain basis to the PRA or the FCA. Indeed the 2014 housing policies on affordability and loan-to-income flow limits were put in place using the FPC's recommendation powers. The power of recommendation allows the Committee to respond nimbly to emerging risks to financial stability.

In the initial years after it was created, the FPC focussed most of its efforts on the core banking sector, either building its resilience or ensuring loans made through it didn't pose a risk to financial stability. This is not a weakness per se – it was right to focus the Committee's attention there initially given the role the banking system had played in amplifying the financial crisis. But the challenge for the coming years will be to complete the pivot toward the non-bank sector that the Committee has begun. After all, market-based finance now accounts for nearly half of the UK financial system by assets.

The FPC already has several means by which it can gain insight into the workings of the non-bank financial system. It can undertake deep dives, such as those already completed on investment funds, insurance companies and market liquidity. And it can recommend changes to the regulatory perimeter. One area I look forward to seeing developed further is proposals for 'stress-testing' the system as a whole. Such an exercise would allow us to better understand the various interconnections, feedback loops and amplifications that determine how the the financial system as a whole will respond to a stress.

25. What is your view of the macroprudential tools that are available to the Financial Policy Committee?

See my answer to question 24.

26. What indicators would you use to assess whether to increase the countercyclical capital buffer?

The countercyclical capital buffer (CCyB) allows the FPC to adjust the resilience of the banking system to the changing scale of risks it faces on its UK exposures over time. In its September meeting – my first – the Committee judged that in domestic credit markets risk-taking is currently at a standard level overall. Consistent with that judgement, the FPC stated that it expects to increase the UK CCyB rate to 1% in its November meeting absent a material change in the outlook. Assessing what the risk of losses is at any point in the cycle inevitably involves judgement, and there are many indicators which provide a useful guide. I believe it is important to consider high level aggregate indicators, sectoral indicators, and indicators of valuation stretch in property and financial asset markets.

Starting with high level aggregate indicators, the FPC is required by legislation to consider the deviation of the ratio of credit to GDP from its long-term trend (also known as 'the credit to GDP gap'). While this is a useful indicator over the very long run, because the trend is currently influenced by the pre-crisis period in which credit growth was unsustainably high I currently place more weight on the growth rate of credit compared to the growth rate of nominal GDP.

Another aggregate indicator I place weight on as a measure of risk is the current account deficit. There is a large body of cross sectional and time series evidence to suggest that a large current account deficit is a significant leading indicator of financial stress – though I note that in the UK there are mitigating factors including a stable instutional framework.

As for sectoral indicators, it is important to consider not only indebtedness but also the growth and distribution of household and corporate credit. As such I will consider indicators of balance sheet stretch, debt servicing ratios, their distribution, and how they are changing over time. Of course if a particular sectoral indicator is flashing red, then I would consider whether the CCyB is the right tool, or whether the SCR or indeed PRA tools would be more appropriate – as was the conclusion reached following recent work on the growth of consumer lending.

When considering property valuations, I will consider both absolute measures – such as the ratios of house prices to income, commercial property prices to rents, equity prices to earnings – and measures that take account of the level of risk-free interest rates – such as the discounted level of rental income. As you would expect given my responsibility for markets and banking, I will pay close attention to financial market indicators of risk, including implied volatilities, equity risk premia, spreads on corporate debt, and the absolute level of risk free rates.

Finally, although the CCyB is used to adjust the resilience of the banking system to losses it faces on its UK exposures – that doesn't mean that international indicators should be ignored. Given the open nature of our economy and financial markets, there is much scope for international shocks to spill over to the UK assets on banks' balance sheets, and I will also take that into account as I set the CCyB.

In short, there is a wide range of indicators to assess. With that in mind, because the severity of the Annual Cyclical Scenario is calibrated on the basis of the FPC's judgement of the risk environment, I expect the concurrent stress testing process to be a useful focal point for taking stock of the CCyB setting.

<u>**Accountability**</u>

27. **How important is it for MPC, FPC and PRC members to be subject to parliamentary accountability? What do you think are the strongest and weakest parts of accountability structures for these committees?**

Parliamentary accountability is central to the effectiveness of the monetary and financial stability framework in the UK, through which the Bank can fulfil its mission. Accountability was one of three key principles, along with credibility and efficiency, according to which we assessed the UK monetary policy framework in the 2013 Review I was responsible for.

As I've set out in earlier answers the PRC, MPC and FPC have been given statutory responsibility to achieve certain objectives. In the case of the FPC and MPC, these primary and secondary objectives are further informed by their remits. The PRC benefits from a letter from the Chancellor setting out the government's policy, to which the PRA should have regard when pursuing its objectives.

As the Governor recently put it in his speech to mark 20 years of the MPC's operational independence, "the Bank takes its orders from the remit and is accountable to parliament and the people for its performance". The MPC's experience over this time shows how this accountability is vital to the legitimacy of any independent body.

In the case of the MPC, parliamentary accountability is aided by the quantifiable nature of its remit and the instruments the MPC deploys to fulfil its remit. The MPC's remit letter specifies a numeric, symmetric inflation target, CPI of 2%, that applies at all times. The principle instruments, Bank Rate and asset purchases, are well specified and understood and the subject of individual votes which are published at the same time as all the supporting material. All this aids accountability both collectively and for individual members, who supplement their voting record with speeches and commentary.

The FPC also has a clearly specified remit for identifying, monitoring and taking action to reduce or remove systemic risks to financial stability. But this is not quantified. And while a great strength of the FPC is the range of tools at its disposal – as set out in my answer to question 24 – many of which are quantifiable - they are more complex. To address these issues, accountability is strengthened through other means. For example, in explaining its actions the FPC is required to include an estimate of the costs and benefits (unless such an assessment is not reasonably practicable), allowing the public and Parliament to understand the factors that the FPC considered in reaching its decision.

In reaching decisions, the chair of the FPC is required by statute to seek to a consensus, and the arguments considered when reaching that consensus must be reflected in the Record of that meeting. Where it is not possible to reach a consensus, a vote must take place and the arguments advanced for each position will also be reflected in the Record. Members are then accountable for those decisions to parliament and the public.

The PRC's micro- prudential objective to promote the safety and soundness of the firms it supervises and to secure an appropriate degree of policyholder protection are qualitatively different from the MPC and FPC. But Like MPC and FPC members, PRC members appear before parliament to account publicly for their actions and decisions, complementing their speeches and PRA publications. This accountability will play a vital part in maintaining the PRA's legitimacy as it continues to uphold post-crisis prudential standards, even as memories of that crisis begin to fade.

28. How far do you think the public understand the role and decisions of the MPC, FPC and PRC? How important do you think it is that the public understand the role and decisions of these committees and what activities or actions do you intend to take forward to improve public knowledge and understanding?

It is vitally important that the general public understand the role and decisions of the MPC, FPC and PRC. Not only because the decisions taken by these committees have real impacts on their day to day lives. But also because, to varying degrees, public understanding of their work improves the efficacy of the policies set by these committees.

For the MPC, as I set out in my answer to question 13, greater understanding of the role of its work tends to improve anticipation of how the Committee will react to events, in turn improving the efficacy of monetary policy. There is an analogous benefit from public understanding of financial stability policy made by the FPC and PRC. To the extent that it engenders confidence in the financial system, it will have the benefit of reducing the likelihood of disorderly rushes for the exit in the

event of a stress, thus making the goal of financial stability more attainable.

Given these benefits from communication, I intend to undertake significant outreach as part of my role on these Committees, and look forward to doing so in a way that takes advantage of the Bank's commitment to targeted and creative output. I will use speeches and interviews to communicate my policy views, and to promote greater understanding of the work of the Markets and Banking areas of the Bank. Effective communication has to be two-way, so I intend to listen as well as speak. Indeed, in order to hear a range of views ahead of the November Inflation Report round I have already met with the Bank's Agents, and I am fully committed to visiting businesses around the country via their network. I will also engage fully in the next Future Forum, a now annual event that is intended to help people better understand the Bank's role in the economy.