

**FINANCIAL STABILITY REPORT PRESS CONFERENCE  
WEDNESDAY 27 JUNE 2018**

**Kamal Ahmed, BBC.** Governor, despite many concerns raised by business, is it right that you're saying actually, good progress has been made on preparations for Brexit, on the UK side? Are you also warning, in contrast, the European Union side, that they are still lagging?

**Mark Carney:** Well, in terms of financial services, there has been close coordination between UK authorities, the bank, the FCA, and the treasury. The UK government has-, we, as the FPC, have identified the principle risks we see to financial stability around Brexit, and of course we focused in on the most severe scenario, however implausible it may be, given that there is a withdrawal agreement between 28 governments. We focused on a disorderly cliff-edge Brexit, we've detailed the risks, we've capitalised the banks to that possibility, and then we detailed the so-called crosscutting risks, and identified what, in our view, are the types of actions that need to be taken. With respect to the actions in the UK, the UK government has responded. They've signalled a willingness, if necessary, to put in place both a temporary permissions regime for EU 27 financial institutions. Actually, technically EEA financial institutions, think banks and insurers, who are providing financial services here, but also a temporary recognition regime for EU-based financial market infrastructure, think central counterparties that are used by UK financial institutions. So, UK government has responded, it's indicated a willingness to do that. Now, with the receipt of royal assent for the EU Withdrawal Act, it has the legal authority to move forward if it deems necessary, so those things are being put in place. Where there are crosscutting issues and derivatives is the most obvious example.

Where there are crosscutting issues, it requires action on the European side as well, and at the end of June 2018, the European side has not yet indicated how it will address those issues, so we have a responsibility to the British public to make clear where things stand. I will maybe just emphasise something in terms of what the UK government has done, or what they have intended that they're willing to do, if necessary, is something that would ensure that, for example, if a UK policy holder had an insurance contract from a European provider, that contract would remain legally valid. It also would mean that a European institution, bank, that operates here, would continue to be authorised, subject to the authorisation process of the PRA, which Sam can speak to. So, we're putting in place the things that look to have seamless continuity of service, particular to the UK. We're duty-bound to point out where there is still work to be done. We're obviously pleased to be working with the ECB, assessing the risks around the period around the withdrawal date, March 2019.

**Chris Giles, The Financial Times.** Governor, the US has imposed tariffs on Europe and China, and started what looks like is going to be a trade war, we don't know how big yet. How vulnerable are British financial institutions to an escalation of tariffs and maybe even financial sanctions, that might come from the US, and the global financial system? What action can the bank take to mitigate those risks?

**Mark Carney:** Well, I'll say first, with respect as the committee looked at issues around protectionism, and the concerning developments that have taken place in the last several months, the escalation not just of rhetoric, but of potential action and the broadening of potential action. We've looked at the potential economic impacts of those actions, if they are put in place. As you can appreciate, the strict mechanical impact of tariffs being put in place, even some of those that have been discussed, is manageable, but the question is the extent to which these measures start to affect business confidence. You have a negative effect on, for example, business investment, and to what extent is it possible, as I alluded to in my opening remarks, that it's one of the potential triggers for a broader risk-

off attitude or adjustment to risk appetite in financial markets. Those are possibilities, and of course, being a committee whose job is to always look at the glass as being half-empty, those are the possibilities we've been looking at, in terms of ensuring that the financial institutions here are resilient to it. In that regard, the last several years, irrespective of the trigger, whether it's challenges in an emerging market, or trade protectionism, we've been looking at exactly these types of risks, so a sharp snapback in interest rates, a sharp increase in risk premia, and increased risk premia on UK assets specifically, including on bank funding costs.

So, a consequence of that has been to put the banks in a position, not just so that they have the capitalisation for that type of scenario, which they do, but also their liquidity positions are well-structured for this type of potential market difficulty. I'll give you a couple of figures which are in the report. One is that if you go back ten years ago, admittedly not a great time, but ten years ago pre-crisis, about 16% of the balance sheet was funded in the repo market. Now it's 4% of the balance sheet funded in the repo market. As I alluded to, or said in my opening remarks, the UK banks are now in a position where they more than cover all of their short-term funding that is potentially, in an extreme scenario, subject to run risks, through their own liquid asset buffers or through access to liquidity facilities of the UK. So, that helps mitigate the risk, and I think there's one other structural point, if I could, that I think helps mitigate the risk, which is that with respect to financial services, over the last several years, and since the new US administration has come into place, we have worked very closely with our US colleagues on the design and the implementation of international standards. Obviously I can't speak directly for them, but it's my view that there is a shared understanding that we both have implemented these standards and gone beyond those international standards, given the importance of our respective financial systems.

That there is a degree of mutual respect and trust in those systems, and a recognition, my last point, of the value of maintaining openness between those systems. I think that also helps to mitigate the risks that you're raising, but the fact that you're even raising the risk is indicative of the potential seriousness, and some potential knock-on effects of trade discussions, which at present, are quite challenging.

**Ed Conway, Sky News.** Can you characterise, Governor, what would happen if those trillions of pounds' worth of cross-border derivatives between the UK and Europe do become unserviceable? Is that something that's small beer, or is that a big deal? Related to that, why is it that the European Banking Authority says that banks aren't ready for a hard Brexit, whereas you say they are?

**Mark Carney:** Well, I think on the latter part of the question, the second part of the question, I think with respect, the EBA's comments earlier this week, or opinion earlier this week, were incomplete. They were incomplete to the extent to which it did not acknowledge the temporary permissions regime, or potential temporary permission regime which has been very clearly signalled by the UK government. Now, as I just mentioned, the UK government, literally on the day, or the day before they issued that opinion, the Friday before the opinion, with royal assent of the withdrawal bill, the UK government got a formal ability to do it. Now, of course, it has to then decide to move forward with it, but certainly the contingencies are there in place. So, I think that's a question for the EBA, first of all, why that aspect is incomplete. Second part of an important point to your question is that when we looked at the capitalisation and liquidity positions of the banks in our stress test in 2017, now we did, as you recall, we did a different stress. It was a global market stress, with a big misconduct stress, which had various knock-on effects. We did look at various channels that a hard Brexit, a disorderly Brexit, not just a hard Brexit but a disorderly, cliff-edge Brexit could affect the UK financial system, including exactly this issue.

So, what would potentially be the knock-on effects, through asset prices, funding conditions, the steepness of yield curves etc., the level of Sterling, what could potentially be a range of impacts, and where they encompassed, was that less than the overall level of that stress involved? The answer, in our judgement, was that was very much the case. If you could take that shock, which is not a good thing to have, and other shocks, then it would be less than what was admittedly a very severe stress test, but that's why we ran a very severe stress test. I think the important thing to recognise is that these issues can be addressed. We have found with the government, what we view as a rock solid, UK-based solution to the UK side of the issue. There may be many different solutions on the EU side of the issue, but I'm going to prolong this for a moment, because I think it's important we make it clear that our judgement is that this cannot be solved by the private sector. Maybe if I can just ask Sam to say a word, because we have experience with these type of adjustments, but on a one-off basis, and that informs us just how much can be done in nine months. When we're sitting here, nine months from the time, when you have tens and tens and tens and tens of trillions of derivatives that mature after the withdrawal date, put it into some context, Sam.

**Sam Woods:** So, maybe I could just give you a bit more colour on some of the practicality of that issue, and why we think it is simply impractical to think that 29 trillion in uncleared derivatives can be moved across the border in a nine-month period. So, just to give you some colour on that, based on our experience. First point, you can expect a large UK broker-dealer to have upwards of 4,000 direct clients on the other side of the border. So, if we're talking about a novation, that's the number of clients that would need to agree, however that understates the issue for two reasons. One is that in many cases, the underlying beneficial owner will be a client of the client, and they also need to give their consent. You might expect, it's hard to get good numbers for that, for that to be a much larger number, say 20,000 for one broker-dealer. Of course, we're talking about this happening simultaneously across a whole range of institutions, in both directions, and all of their clients, so that is the kind of logistical challenge. How bad is the problem if it doesn't get done, and no fix is put in place? Well, we think that is a real problem, and why is that? It's not the case that a sudden Brexit or disorderly Brexit would sever those contracts. The issue is that to varying degrees in each of the 28 countries, the ability of companies to service those contracts with what we call lifecycle events would be impaired, because it would be illegal to do that without the authorisation.

We're talking about things here, like exercising an option, or rolling an open position, or trade compression. Now, again, there are some definitional issues here, that that is a high volume activity. So, to give you one example, for a large UK broker-dealer, we have an estimate from one of them that the number of such lifecycle events which they have to engage in per week, across equities, credit, and rates, is close to 300,000, so this is a very high volume of activity which we think will cause a serious problem if not fixed. Last couple of points. Mark says we've got experience of doing this, moving derivative books across borders in individual cases. We've had that coming into the UK, we've had it coming out of the UK. Our experience is four years would be a norm, for one firm doing that individually. I think you could expect it to be longer, where you've got everyone doing it at the same time. The last point to make is, of course, if you don't get clients to novate, you can potentially use the court process, a Part VII process. Now, that's much more common for insurance business, and with a fair wind with a completely vanilla type of Part VII move for an insurer, you could think 18-24 months. I think in this context, and in the banking context, it's unrealistic to think of that as a timeline. A particular reason I say that is that we've just been through a whole set of part seven's for banks, which we call ring-fence transfer schemes. Which are just part seven's in the context of ring-fencing. That's been a four year process. So, for all of these reasons, we've been saying for a year, that we think the authorities have a role for solving the contract continuity issue. As Mark says, we have that on the UK side, not yet on the EU side.

**Mark Carney:** Okay, last thing, for those who haven't lived this, and don't want to live it, two definitions. One, part seven is a court process and Novade is a way of taking a contract between two parties and changing the other counter-parties. So, you go from the UK based bank to the European based bank. The other party has to agree. As Sam says, that goes into tens of thousands, and then in many cases the counter-party you have has thousands, literally, of underlying clients. They're an asset manager and have underlying clients. So, that's why it's complicated. It's unfortunate, it's complicated. I'm not sure when the Article 50 was designed, with the derivatives market in mind.

**Rita South, Financial World.** Could you put a figure on what a snap-back in interest rates will look like? Is it 2%, 4%, 100 base points?

**Mark Carney:** Well, I mean, first off, to recognise that what we're looking at is not a prediction, it's not a forecast, it's a tail-risk environment. When we did our most recent stress-test we were moving base rate from, and long rates up, by almost 300, 350 basis points, right? Yes, to 4%. So, bank rate went to 4%, and then we built in some additional term premia out to on the ten year gilt. So, we have to look at something that is quite extreme. I mean, obviously that's not a prediction of what's going to happen. I think the important thing to stress on snap-back is it's a possibility. Certainly it is a tail-risk. It's a pretty readily identifiable and has been identified tail-risk for several years. We should be prepared for it. The last point I'll make is that being prepared for things in a financial stability sense doesn't necessarily mean that the economic outcome is that attractive. It just means that the financial system is dampening the impact of a risk crystallising. It's dampening, not amplifying it. Of course, means that the economy, the financial system, is in a position so the economy can pick up and move forward more readily from that point.

**Phil Aldrick, The Times.** I just want to leave aside the differences between the EU and the UK on Brexit stuff, briefly, because there have been reports of differences between the Treasury and The Bank of England on some of the, you know, financial services, the deal that we're hoping to strike. So, I just wondered if you could, you know, clarify whether there are differences, and what the positions are? Also, are we seeking, is the banks position still, that we're seeking the best outcome, is mutual recognition of outcomes?

**Mark Carney:** Yes, I'll start and Jon you can amplify. The first thing, state the obvious, is that the negotiation with the EU is for the government to conduct, and ultimately for parliament to approve a final deal. Our job is, apart from everything we've been discussing thus far in terms of risk management, is to provide technical advice as needed to the government, and that's principally through the Treasury. Secondly, in terms of our views, as I indicated at Mansion House last week. I think consistent with the public statements the Prime Ministers foreign speech. The Prime Ministers Mansion House speech. The speech of the Chancellor at a large banks headquarters. I shouldn't necessarily endorse that bank, but recently, in Canary Wharf. Those are all consistent in terms of focus on, and definitions, can, are, somewhat loose in this world. So, I'll try and be clear, a mutual recognition that is based on outcome based equivalence. Obviously that outcome based equivalence itself is based on a fairly high degree of alignment in the standards that are applied. A very close degree of supervisory co-operation, but also some form of dispute resolution mechanism and adjustment. So, those are all consistent. As I said, we are working closely, we think it's both feasible and in the interests of both sides. I think, as you also would be aware, that these discussions, at least to my knowledge, these discussions between the UK Government and the EU 27, have not begun, really begun, with respect to financial services. The issues that have been in the news around the withdrawal agreement, around goods, around Ireland, a host of other issues, have been occupying, quite

understandably occupying, certainly the lions share, if not the totality of the discussions thus far. So, it's still remains to be seen and engaged, but Jon, do you want to?

**Jon Cunliffe:** Yes, I just say, I don't really recognise that description of the bank, treasury, relationship at all. I think a lot of the work we've just set out, we'd be doing with the Treasury on the transition, on the legal basis, is the product of very close co-operation. We wouldn't be where we were if we weren't able to do that. When it comes to the future end state, you know, as the Governor said, negotiations haven't started. The equivalence of outcome based, supervisory co-operation, deep cross-boarder relationship, set out by the Chancellor and by the Governor, seem to me to be very much the same thing. The last thing I'd say is, there's a tendency in all of this, let's say, for people to talk about labels and to throw labels around in quite a confusing way. The key thing, I think, for us, for the EU, and for the other countries that we share financial risk with, is to understand, what are the risks? What are the risks around this activity that goes cross-border? What is a proportionate and effective way to manage those risks? Just about the whole of the International Reform Program after the financial crisis has been about getting agreement, cross-border, about how we manage those risks. Not just between us and the rest of the European Union, but more broadly. So, I think when you start to look at this, you have to focus on, what's the risk? How do we manage it? What's an effective way to manage it? Rather than, it's this model, or that model. If I can put it that way.

**Anna Isaac, The Telegraph.** I wanted to ask about UK external financing the kindness of strangers issue. It seems to me that in the report there's an increasing sensitivity to the fact that foreign investor appetite for UK assets could fall. How concerned are you about that happening given our reliance on it has increased so much in recent years? Particularly in the climate of a global trade war and amidst Brexit uncertainty.

**Mark Carney:** It's an important issue. As detailed in the report, subject to the usual caveat around UK statistics, in that they tend to get revised, and balanced payment statistics are, you know, particularly prone to revision. Subject to that caveat, broad-brush, there has been a shift in how the current account deficit has been financed. To foreign in-flows in the last few years, as opposed to draw down of UK assets held abroad, as you picked up. That those foreign in-flows have tended to be in the, again as detailed in the report, have tended to be in the more volatile camp. In other words, less on foreign direct investment, more in what's called other investment. So, more portfolio type moves. Including inter-bank borrowing. Although I don't think there's a lot of that to be honest, at inter-bank. In shorter term debt markets and other capital markets and money markets. So, more foreign financing in the more volatile end of the spectrum. So, what that then means is it puts a premium on the macro-economic frameworks in the country. Which are certainly, my view, our view, in the case of The Bank of England, very clear. Clear inflation target, clear remit and responsibilities for the FPC, what we're talking about today. The way, as long as we continue to do our job and, you know, come clean on where we see the risks, the main risk.

What we can do about them. Take action. Challenged by you. Challenged by parliament, by citizens, on those, they'll be merited confidence, that the system can, is resilient to a series of shocks. I think that given that some of the shocks that we're contemplating, and have contemplated through our stress test. Contemplating through a cliff-edge Brexit. That actually has a benefit, if I can, you know, unusually, be positive at this press conference. Has a benefit in that if you're resilient to those, you will tend to be resilient to other shocks that you haven't anticipated and can't conceptualise, but actually might crystallise while you're focused over there. So, that is the good news. I think as well, last point if I may, which is that, and again it's a view of the committee, commented in the report, that, you know, maintaining the UK's traditional openness to trade, investment, also, is an important component of

sustainable financing. Of the current account. That's not an end in itself, but also to sustainable growth in the economy, and the issue will be maintaining that through a process of leaving the European Union in an environment where protectionist sentiments elsewhere, at least appear to be arising. Having come from the G7 I know that they've risen. At least for the moment.

I said that was my last point. I'm going to abuse my position and make one last point. I think though that the UK is in a strong position to make the case for openness, not just because of its history, but also to end on financial services, because what has been done in financial services to put this system in a much more resilient position. That allows the country to be confident about keeping this system open, and ideally having other systems maintain their openness to ours. Not just about Europe, but the US and others. Which create opportunities that can offset some of these tensions. Thanks.

**Philip Inman, Guardian.** I was curious about the working group, Brexit working group with the ECB. How is this going to speed things up in terms of you getting some kind of agreement? Are you meeting regularly? Is this something that you're expecting to produce a document in the near future, to help the EU come up with reciprocal arrangements?

**Mark Carney:** First thing Phil, it's always good to talk. So, even amongst financial authorities. So, we have met, the working group has met a few times. We're not going to provide a running commentary on the specifics of those meetings. The reporting relationship is that the treasury and the European Commission are members of the working group as observers. So, effectively, there's real-time reporting to those authorities who would be, if there were things to communicate directly, would communicate. It's as I said at the outset, and as the committee says in the report, we very much welcome the formation of this. It's helpful to be addressing the issues. I wouldn't, just to, if I can amend one bit of your preamble, which is, this is for shared understanding of the risks around March 2019. Risks to financial services, to be absolutely clear. So, it's a sharing of views, data, perspective, analysis of the risk. So, it's not just us. It's not a monologue, it's a dialogue, as you'd expect.

**Philip Inman:** We shouldn't be expecting a report to come out?

**Mark Carney:** No, you shouldn't be expecting a report. What you should expect from the authorities, I mean, we have reporting requirements with FSR's, and reporting prime. You should expect results around issues like this. This is not a term paper.

**David Goodman, Bloomberg News.** Do the new powers granted to The Bank of England last week give you more ammunition to deal with the fallout from a disorderly Brexit? Is that, is the new relationship partly a pre-emptive measure against such an outcome?

**Mark Carney:** The short answer is no. We were in a position, and I'll expand on that. We faced some related issues. Perhaps, certainly not the derivative issues, but potential market move issues, around the referendum, or at least we planned for these types of moves around the referendum. When we didn't have the additional capital, and we were still in a position, as you may recall, where about £400 billion of collateral had been placed with The Bank of England, which could be realised into more than £250 billion of immediate liquidity for those institutions, if required. We also had swap lines and other foreign currency arrangements in place. So, we can still do that. What the new arrangement, financial arrangement, does is it puts our balance sheet on a firm footing, and an ability to provide liquidity in normal and extreme times. We would expect that liquidity demands of the system will go up as the system eventually moves away from the effective lower bound, as you move into a tighter, just the day to day liquidity demands, in that one moves away from emergency type liquidity to part of the

functioning, regular functioning markets. But then, if you're doing that and then you have a stress scenario, you need to have additional capacity. So, the arrangements are important, very important, but they're very important for the medium, longer term, and basically having a balance sheet at the Bank of England, and a relationship with the treasury that is consistent with continuing to have the world's leading international financial centre.

**James Burton, Daily Mail.** I just wanted to ask, Governor, if you had a response to the Treasury Committee's criticisms of the FPC's expenses yesterday? I mean, do you think that the expenses regime in place is proportionate and reasonable? Are you worried there is a reputational risk to the bank here?

**Mark Carney:** Well, I think the first thing, it's absolutely right for Treasury Committee, for court, for you, for others to question our expenses or query our expenses. It's part of the reason why we disclose them all, we put them all out every quarter for not just me, but the other policy members, senior members of the bank, so that's the first thing. The second is, I think it's important to have the context in which, not just the FPC but the bank as a whole operates, which is, as we've been discussing this morning, this is the world's leading international financial centre. It's the most complex financial system in the world, the UK is, rightly, at the top table, all the top tables, so the G7, the G20, the BIS, the FSB, the SRB, The Basel Committee, and on. Those are international groupings, those international groups meet internationally. We can't have all of them meet in London and so we have to travel to them, and if you take a look at, for example, my expenses, which I'm sure you have, which over the similar period, last two years, total 312,000 sterling, so a lot of money. 52 trips, you know, it's to go those meetings. Now, we're in a position where the bank, myself in many cases, chairs many of those meetings, so we lead these discussions. These discussions are about the regulations that matter, not just for the wholesale, the city-type aspects, but also for the regulations and the resilience of the banks and building societies that your readers up and down the country rely on.

It's important that they're right, that they're both resilient but they're not disproportionate, and they're not meddling, the international rules aren't meddling in our systems, and that's part of what we do when we're there. But again, to go back to look at mine and just put it in context. So, 312,000, 52 trips in that, what I do, and what, I'm not surprised it doesn't get reported, but what I do is I also apply, where I have reimbursements and including salary to that, so salary from the BIS, which reduces that number down to the equivalent of £3,000 per trip. Now, that's still a lot of money but it's a consequence of having to go to these various meetings, and again, just to put it in context, and I'll finish on this, which is that I spent this past, what was a glorious weekend here, I hear, I don't know, because I wasn't here. I was in Basel. John, you were in Basel as well, weren't you? We were in Basel, chairing the FSB, chairing the group of global governors, dealing with issues around cliff edge Brexit. Dealing with issues around emerging market risk, the future of financial reform, issues that are directly relevant. I was very pleased to be able to get back here late Sunday night, so I could come into work on Monday morning. Now, it cost money to go there and it cost money to come back, but that's the reality.

What's important is that we're good stewards of those public funds, it's absolutely right for you to raise the issue, and for the Treasury Committee, that we have the right processes up through, we have the right policies, the right processes. Mine are signed off by the Chair of Court, my expenses, for example, and that they're reviewed periodically, and I think, as the incoming Chair of Court, Brad Fried indicated yesterday that he expected, that he would take a review of those policies and make sure they're appropriate, and that's exactly right.

**Jason Douglas, Wall Street Journal.** Just going back to the global picture, could I ask you just a brief question about China, please? I know that China is sort of a perennial worry for the FBC, but I'm just curious if, in the context of what we've seen in asset markets in China this past week, and of course, in the context of a potential trade war, whether your concerns around the Chinese coming (ph 45.58) have intensified? Thank you.

**Mark Carney:** Well, I think you're right, in that it has been a concern of, the challenges in China have been a concern of the FPC for a number of years. I would say, concerns shared by Chinese authorities have responsibilities for these, recognition that, alongside the Chinese miracle and great progress, there are some big imbalances in that economy, freely acknowledged. Imbalances between external side, domestic, between industrial and services, and imbalances in the financial sector, particularly of a concern. In all respects, the Chinese authorities have plans and plans that are being not just on the shelf, but are being enacted, and progress has been made, and there has been some progress noted in the report, for example, on some deceleration in total social financing, for example. The new regulatory structure that has been put in place in China is very welcome. I would say, from our interaction with the Chinese authorities, whether it's at international meetings, or in China itself, or here, has been, the seriousness with which they are taking the situation, and the priority they're placing on it, and the plans that are put in place are reassuring. It's reassuring from a difficult circumstance, and those circumstances have been made more challenging by the trade talks, and you've indicated. So, we'll see. Tremendous strengths, but a more, the external environment for emerging economies, China's a special emerging economy, but emerging economies in general has become more difficult, and that trend, unfortunately, may continue for some time.

**Dan Hinge, Central Banking.** How much have firms improved their cyber defences in recent years, and are there any that you still have doubts about, in terms of cyber resilience?

**Mark Carney:** Okay, Dan, I'll start, then I'll pass to John, but there has been progress on the cyber side, and in terms of our overall strategy, where we've seen the most progress is in two respects. One, on governance. I know that sounds like it's a soft element, but actually, having clear responsibility at the senior most levels for this issue, having board responsibility, having Sam and his colleagues at the PRA, having intense focus on these and other operational risks, that has sharpened the mind and brought up the priority list. Something you would think anyway, but it matters because you need broad coverage, first point. Second is that, penetration testing has been conducted on 34 of the largest financial institutions in the country, first round, many of them are on the second round. We're moving from a sort of centrally designed test to a spot test, what are called CBEST tests, but regular testing by the firms themselves of themselves to bring it external. The learnings from that, again, are being, the supervisors are making sure that banks are taking the learnings, so the lessons from that and implementing. All of that process is improving cyber defences, but it's not sufficient and you can never declare a victory on this.

The issue, and I'm going to pass to John on this, what we've been focussed on, certainly in this round as the FPC is to say, 'Let's just change the question,' not, 'How do you prevent, or how strong are your cyber defences?' but just assume that you get taken out or aspects get taken out, what do you do? Jon, if you want to-,

**Jon Cunliffe:** Yes. I think, as Mark said, we've embedded expectations in firms, and they responded to them, about the sort of resilience we'd need to resist cyber-attacks, to detect it when it happens. What we're doing now is moving to the next stage, that if there is a successful cyber-attack, and this threat evolves all the time, how long can the system be down before it comes back up again? Should

that be the same amount of time for different parts of the financial system? The view we've taken is that the point at which financial instability occurs is different, say, for payment systems, than for banks, than for CCPs. So, we need to design an impact tolerance to tell the financial sector in your area the time you can afford to be down. You need to come back up again in a certain time. We're piloting that approach with payment systems over the next year. Then, to test whether that particular group of firms, payment firms, CCPs, banks, can actually come back in that time. To do that, we'll design a stress test. It'll be severe but plausible. The stress test will, for example, corrupt the data that a number of firms are using. The question for them will be, if that happens, where do you go? Do you have alternative sources of data? Can you restore data integrity? How long do you think it would take? We won't actually take out, but can reassure you of the data. So, it's got to be a test of their systems and what they have available.

If they can't bring it back up again within the tolerance, then there's a supervisory, sort of, discussion, then, about what they need to do to get there. So, that completes the part of the system that says, 'Where could this cause a real threat to financial stability within the financial system? Can we then have expectations for impact tolerance that we can communicate to the firms? Can we test that? Can we back it up? Can we start to have the same sort of progress there that we've seen in the first part of this, which is about resilience?'

**Gareth Ramsay:** Okay. We have a little time left, so we'll take one from Phil and one from Ouida.

**Phil Aldrick, Times.** Thank you. There's some warning in the Financial Stability Report about the scale of debt levels in Italy and the links between the sovereign and the banks and the economy. Obviously, these have been shown to be dangerous links to have in the past. I just wondered how high a risk do you think there is of a potentially systemic shock coming out of Italy, and another, sort of, mini sovereign Eurozone debt crisis, and how that would affect us, our banks?

**Mark Carney:** Yes. Well, the first thing on the last part of your question, in terms of direct exposure of the UK financial system to Italy, as I think's detailed in the report, it's pretty modest. Surprisingly modest. I think, Sam, it's less than 10% of CET1 of core equity. Italy is a large, extremely important economy, highly integrated with the rest of the Euro area, and as a consequence, if there were severe issues in Italy, one would expect broader challenges in other Euro area economies, and quite rightly. Quite understandably, maybe is a better way to put it. There's fairly large exposure to the Euro area as a whole. So, it's hard to escape if there were broader challenges in Europe. That said, what we've seen thus far is that there's been very little contagion from Italy to other Euro area economies, at least in financial markets. That, in part, reflects the progress that has been made in countries such as Portugal, Spain, others, in terms of the core of their banking system, improvements in the competitiveness of their labour markets, reduction in their external imbalances, and improvement in their fiscal positions. So, that provides some considerable buffer, if you will, to a rerun of what we had seen in 2011 and '10. That's before getting to a more explicit policy of the ECB.

All that said, what is commonly acknowledged, what's well-known, in the words of President Draghi in the Five Presidents' Report, that the Euro is still unfinished business, and the discussions to finish that business, whether it's on the banking union, capital markets union, and ultimately some sort of more formal fiscal arrangement, is arguably, in the view of that report, and it's certainly a view I would share, ultimately necessary to provide a more stable footing.

**Ouida Taaffe, Financial World.** Could I ask two questions? You mentioned that the financial system was strong enough for the UK to create some opportunities to offset external problems. What are those opportunities? What could it do? How much time does the bank spend dealing with Brexit?

**Mark Carney:** The answer to the second question is a lot, and rightly so a lot, because the Brexit issue is both one of risk management, as we've been talking about today, and it's also about a potentially fairly wide range of future relationships, and the implications of those relationships, and doing analysis as needed around those. Again, we have nothing to do with any negotiation related to this, but there's just a very large variety and variance of relationships that could be in place, and opportunities and risks that one has to look at in support of a much broader analysis that the government has to do. So, we spend a great deal of time on it. I mean, look, I probably spend 40% of my time-, I mean, it's close to half, is the short answer. Where are the opportunities? Look, there are big opportunities from the progress that has been made over the last decade. This is a point we really do try to emphasise, in that the G20 reforms have addressed the major fault lines which caused the last crisis. There's a consensus around them through the FSB. They've been agreed. FSB members, which includes the G20, broader than G20, are now implementing those reforms. We're now making appropriate adjustments on the margins, when the reforms could work better. So, that lays the groundwork for an open resilient system, and the UK very close to the centre of that open resilient system.

That is an opportunity, and it's very much an opportunity for emerging economies, which was something that we were discussing, or at least it was a monologue, because it was a speech, but I was trying to raise last week at Mansion House, which is that there is this shift in global economic weight. There's likely to be a shift that accompanies it, over time, in the major reserve currencies, not just conceptually, but in actual fact. London has a natural role intermediating that. That's why a lot of time is spent on Renminbi finance, Rupee finance. If you have the underlying confidence in the financial system, merited confidence in the financial system, that is a very large opportunity for everybody concerned. I won't belabour it, but there are a host of other opportunities that we look at. Given the FPC, from a risk perspective, but it's also a potentially risk-reducing perspective around FinTech, risk to incumbent firms, but risk-reducing in terms of diversity in the system.

**Gareth Ramsay:** We'll do one last one from Ed, and then that'll be the end. Thanks.

**Ed Conway, Sky:** It's just a relatively quick one. When it comes to Brexit, how important would you say it is that the government's media people listen to the concerns of business, whether it's about their order books, or indeed about the financial system? You know, there are some ministers who have been reported as saying, 'F business.'

**Mark Carney:** Well, that's not a minefield. I mean, that's a fundamentally politically question for governments to weigh the-, you know, that's what governments do. That's what parliamentarians do, which is to listen to and weigh the interests of various stakeholders in the national interest. Our job around Brexit as the FPC is to identify the risks, mitigate those risks where we can, and I think, as part and parcel of this process, what we've tried to do with the checklist, with these discussions, with speeches, with other things, is to be as clear as we possibly can about, 'What are the main risks? Which ones are going from red to green? Which ones are still amber or red?' so that we're all on the same page in terms of what needs to be done to mitigate it and put the country in the best possible situation whatever happens, in a much, much broader negotiation. Okay.