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ORAL EVIDENCE  
TAKEN BEFORE THE  
PARLIAMENTARY COMMISSION ON BANKING STANDARDS

**BANKING STANDARDS**

WEDNESDAY 7 NOVEMBER 2012

ANDY HALDANE

Evidence heard in Public

Questions 588 - 664

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## Oral Evidence

Taken before the Parliamentary Commission on Banking Standards

on Wednesday 7 November 2012

Members present:

Mr Andrew Tyrie (Chair)  
The Lord Bishop of Durham  
Mark Garnier  
Baroness Kramer  
Lord Lawson of Blaby  
Mr Andrew Love  
Mr Pat McFadden  
Lord McFall of Alcluith  
John Thurso  
Lord Turnbull

### Examination of Witness

*Witness:* **Andy Haldane**, Executive Director for Financial Stability, Bank of England, gave evidence.

**Q588 Chair:** Thank you very much for coming to see us this morning, Mr Haldane. You are one of the foremost thinkers in the field that we have been asked to cover, and you have given a number of extremely interesting speeches on it, not least the unusually titled “The Dog and the Frisbee” at Jackson Hole—a combination of words that does strike one as unusual. We are going to be seeing you again towards the end of the month with the Governor and the Deputy Governor anyway, where we will be concentrating heavily on the legislation to implement the Vickers proposals. There may be a few questions today on that, but our primary focus is on the rest of our work.

With that in mind, I will begin by asking you to comment on a remark that Paul Volcker made when he came to see us. I am sure that you will have seen and looked carefully at what he had to say. He said: “It was not prop trading that was the problem. It was the culture of prop trading that infected the banks.” How far do you agree with that view?

**Andy Haldane:** I do agree with the Volcker view on that. As I mentioned in a speech just last week, I think alongside the financial reasons why you might seek separation or ring-fencing, which tend to be the ones most focused on so far in the discussion, equally, and in some ways more important, is what ring-fencing or separation might do to separate out cultures and to separate out resources, both human and financial. It struck me when reading, for example, Alan Budd’s evidence to you that there was a gradual, but very clear, cross-contamination of cultures from the 1980s onwards. The commercial banking side of the fence became somewhat more transactional with a greater sales culture and with a shorter-term focus. The fusion of investment banking, for which that culture is natural, with commercial

banking did cause some cross-contamination of cultures and led us ultimately to some of the problems that we saw during the crisis. Generally speaking, the Volcker proposition is one that I would strongly support.

**Q589 Chair:** Colleagues will probably explore that thought more in further questions, but you mention Alan Budd and one of the points he made was that there was a cosy cartel operating—an unspoken gentleman’s agreement between the regulators and the regulated community—that supported an oligopoly. Do you think that improvements in competition can play a role in improving and maintaining standards in banking?

**Andy Haldane:** It is certainly true that the forces of competition, especially in the two decades prior to the crisis, did play a role in fuelling the risk-taking and the rent-seeking. To give one example, in the years from 2000 until 2007, many banks were engaged in a competitive race to pump up their returns on equity. It was a race to always be top of the pack, to quote a higher return on equity than your competitors. The way those high returns were delivered was by taking increasingly high degrees of leverage by risking up the balance sheet. That ultimately proved futile for everyone. It led to the system as a whole having too much leverage. In that situation, competitive forces did not advantage stability.

If one looks at banking systems that still operated as something more of a cosy cartel—in Canada, for example, and Australia, to a lesser extent—those banking systems were seen to have survived rather better when insulated from competitive forces. But I would not conclude from that that competition has not got an important part to play in supporting stability, because I think it has. If we had our time again, had prudential regulation been done properly, we would not have allowed this foot race in returns on equity. Leverage would have been capped much earlier on. That risk-seeking would not have been allowed to happen. Provided prudential regulation is being done effectively and enough capital is in the system to prevent excessive risk-taking, competition can support stability. That is where I think we are now.

One of the biggest challenges we face is too big to fail. That is the result of having a system that is too concentrated. That happens not just in this country, but it does include this country. By breaking down barriers to entry in banking, we could deliver a less concentrated system, and therefore one less susceptible to the too big to fail problem. Given where we are now, I think that looking to measures that could boost competition would support financial stability and would be risk reducing, not risk increasing.

**Q590 Chair:** Other colleagues might explore this in a moment, but you seem, in the first part of your answer, to be suggesting that all we really need to do is get back to a cosy cartel. Then you ended up saying that if we get the capital levels right, we will be okay, and it will be safe to improve competition. Aren’t you looking at all of that entirely from the prudential side, rather ignoring the conduct side? What effect does this cartel have on conduct of business regulation? The vast majority of the population who use banks feel that they have been hit every bit as much by failures on the conduct side—all those product failures by banks who they feel have them over a barrel—as by the triggering of the taxpayer guarantee. What is your response to that?

**Andy Haldane:** I am less close to the conduct side than the prudential side, but I would say that measures that are supportive of competition right now would make for a better deal for the customer and would, therefore, hopefully lessen the need for such an intrusive and intensive approach to conduct regulation.

**Q591 Chair:** Less regulation, but more competition, is what you’re saying?

**Andy Haldane:** If we could open up the competitive process in banking, there would be less need for the regulator to seek to intervene and to block products.

**Q592 Chair:** We will come to that in more detail. First, give us in summary what you think the measures on the table actually are. You said “measures on the table”. What are they?

**Andy Haldane:** On the competition side?

**Q593 Chair:** Yes.

**Andy Haldane:** Let me mention one or two. Some of them will be familiar to you already. I think we should be—indeed we are—looking at the process for granting authorisations to banking. I think Martin Wheatley has been before you and said a review is going on to try to lower the barriers, shorten the time horizons and lower the costs of getting a banking licence. That is directionally very positive.

Personally, I think one of the biggest barriers to entry into the banking market historically has been on the deposit account side. The process of switching your current account is much more cumbersome than need be the case. The Vickers proposals make some suggestions in that direction, and some of those are being taken forward now. They will improve somewhat the process for converting one’s current account: a seven-day deadline. I think that lacks ambition; we can and should do better than that. The state of information technology means that is eminently feasible.

I am personally attracted to the notion of customer account details being stored in some central utility-type function. That information is effectively a public good and should be stored as a public good. Banks generally would then compete to plug and play into that central utility. That will lower barriers to entry. The difficulty of current account switch is currently a barrier. It would make the process of searching across deposit account offerings that much easier.

What is true of current accounts is equally true of loan products. Once the information is held centrally it will become easier to switch both deposit accounts and loan accounts. This is potentially a transformational idea for the industry and one I hope it could embrace.

**Q594 Chair:** And improve standards?

**Andy Haldane:** I think so. It would definitely push in that direction. I am not sure that by itself would be enough to take us over the line. But just as an act of showing willing, to put technology to work to improve the customer proposition, I think this could change perceptions. If I were in the industry I would be crying out for ideas that would change perceptions of the offering I could provide to customers. Here is one that is well within the compass of technology. Having looked a little bit at the numbers, I don’t think it is out of reach financially. It strikes me that it is an idea whose time has come.

**Chair:** We will come back to that later this morning.

**Q595 Lord Lawson of Blaby:** Good morning. In your answer to the Chairman’s opening question, you said in effect—tell me if I have mistaken you—that while the separation of retail banking, commercial banking, investment banking was recommended by Vickers on grounds that had nothing to do with the question of culture—that was not within their terms of reference; I am not blaming them: it is very much within our terms of reference—it is highly relevant to the cultural problem as well, and I agree. May I, without

preamble, quote something you said in an important speech a couple of weeks ago? It is so important that I wish to quote it in full.

“Full structural separation of investment and commercial banking, a modern-day Glass-Steagall Act, has continued to attract support. The main benefit this would bring, relative to structural ring-fencing, is that it would eliminate loopholes from the ring fence and better ensure that the distinct cultures of retail and investment banking were not cross-contaminated. That would lessen the risk of basic banking activities being starved of human or financial capital, both ahead of and during crisis. Full separation may also be operationally simpler to implement than the existing structural proposals.”

I must say that I am completely convinced by that. You are pointing in a very clear direction. Only four days later, however, in another good speech, you seem to me to be rowing back from that slightly, when you say: “There are those who doubt whether a ring fence is sufficient to achieve that cultural separation in banking—can two separate sub-cultures really operate underneath a single roof? Time will tell. If it is not possible, then full separation would be the logical next step.”

Do you not think, on reflection, that that is a little dangerous? In your first quotation, you pointed out the greater advantages of complete and utter separation, but “time will tell” means that we will know with the next disaster that it has not worked. Isn’t that a little dangerous?

**Andy Haldane:** I will make maybe a few points on that, if I may, Lord Lawson.

I think the single most important thing that could be done to achieve this cultural transformation are the structural measures that you referred to. Those measures will not, by themselves, be the single thing that unlocks it, but for me they are the most important thing that could be done.

I also think that the ICB—the John Vickers Commission—proposals take us very much in the right direction, and a lot of the distance towards achieving some of the objectives of that separation. I am strongly of the view that full and faithful implementation of Vickers would be a significantly positive step.

There are questions about whether, while necessary, that is sufficient. Let me make a point about where the boundary, the ring fence, is drawn and what might be needed to achieve the proper benefits of ring-fencing and to minimise loophole risk.

On the question of where the ring fence should be placed, I think the Vickers Commission is right in focusing on those activities that lie within the ring fence. Other proposals, Volcker and Liikanen, tend to spend greater focus on the investment banking side of the fence. I think John and colleagues were right to focus on those activities that you would want to have available on a continuous basis as the right principle when thinking about where the fence should be placed. I do think that there is a strong case for thinking about a broader set of activities to be mandated to lie inside that fence. You may recall that, currently, the Vickers proposals have three categories of activity: those that are mandated within the fence; those that are prohibited from lying within the ring fence; and a big third category, a grey area, of permitted activities. I think that grey area carries risks, the risks of flexibility. Flexibility, in the context of a ring fence, is somewhat perilous.

I know the banks were here on Monday, and they quite like the notion of flexibility to fit their business model. The question for us, from a prudential perspective, is whether flexibility is our friend. Previous ring fences, as Paul Volcker said, have tended to prove permeable when they have too much flex, which I think is a risk.

Personally, I think there is a case for thinking whether mandated activities inside the ring fence ought to be broader. Currently, for example, loans to SMEs, trade finance and

mortgages are not mandated to lie within the ring fence. They are all activities that I think we would view as needing to remain in continuous service if a bank were to get into trouble. So I would personally prefer a somewhat clearer ring fence, with less grey zone, drawn in a somewhat different place than is currently the case under the Vickers proposals.

**Q596 Lord Lawson of Blaby:** Precisely where the dividing line is drawn is obviously very important. What I would like to home in on—you said you were speaking personally and I am asking you personally and not the collective wisdom of the Bank of England, enormous though that is—is which would you prefer to see: what you described in a speech as a modern day Glass-Steagall Act or the approach which the Government are embarked on at the moment, which is embodying the Vickers ring fence? Which would you prefer?

**Andy Haldane:** In minimising the loophole risk, the key points are where the boundary is and clarity is important. If the ring fence is to work, the way it operates is crucial. The following ingredients are essential if this ring fence is not to prove permeable: one is entirely separate governance; the second would be entirely separate risk management; the third would be entirely separate balance sheet management, treasury management. We could not have debt issued out of a holding company because its cost would then be the blended mix of the two activities, complete with implicit subsidy. I would have a completely separate remuneration structure. We ought to contemplate completely separate human resourcing if there is indeed this cultural issue that we have been discussing. With those ingredients, I would have a degree of confidence that many of the benefits of full separation could be achieved.

I have one extra point. I was struck by the point made by you, Chairman, in the testimony provided by Martin Taylor, where you floated the idea of having as a back-stop, perhaps as a legislative back-stop, the possibility of separation if the ring fence proves permeable or impossible to police. That is an idea that is worth thinking about. I can see some attractions to that from an incentives perspective. What it makes clear is that if for whatever reason the ring fence does not work as planned, the next step is not to remove it entirely but to go the next step, the “logical next step”, in the words I used in the speech you mentioned.

Having not thought that through fully, that struck me as quite a clever way of ensuring that Vickers is implemented faithfully and achieves what it is meant to achieve. Put differently, what have the banks to fear in having that? The only reason they would be against that is if they had planned to work round or game the ring fence. So for those who don't plan to do that it is costless. For those who do plan to do that, it puts their incentives back in the box. In the context of the Bill you are considering that would be an idea that warranted some careful thought. It struck me that the incentives—back to that incentives point—that that created would be very powerful for ensuring that the ICB proposals were implemented faithfully and delivered what they intended.

**Q597 Lord Lawson of Blaby:** One final question. It seems to me that your version of the Vickers ring fence, which is a logical one, would produce a totally impossible governance problem, but let us put that to one side. You called the speech I quoted from, “On being the right size”. You made the point very powerfully that too big to fail was too big and that we need smaller banks. Would not what you call a modern day Glass-Steagall, which would cut the universal banks in half, be one way—not the only way—of getting banks closer to what you consider to be the right size?

**Andy Haldane:** It would. It would be among the measures that could be taken to tackle the too-big-to-fail problem. Another of the ones that I mentioned in the speech that you quote there, Lord Lawson, which speaks to the Chairman's point about competition, too, is that in Dodd-Frank, the US piece of legislation on the financial side, there is a requirement that no single entity has a deposit share in excess of 10%. That was in US legislation before Dodd-Frank. That strikes me as an idea worth thinking about. One reason why I think it is worth contemplating is because it hits two birds with one stone. It speaks to the competition issue by preventing the emergence of the—in your words, Mr Chairman—cosy cartel. It also speaks to the too-big-to-fail issue. I do not know whether the 10% set in Dodd-Frank is the right number for the UK—it might be the wrong number—but it struck me as an idea that, given that it is already in legislation elsewhere, might bear some careful thinking about in a UK context. That, too, would go in a similar direction to the one you mentioned.

**Q598 The Lord Bishop of Durham:** Sorry, 10% of what?

**Andy Haldane:** Of the deposit base.

**Q599 The Lord Bishop of Durham:** Of market share?

**Andy Haldane:** It is a market share rule, effectively.

**Q600 Mark Garnier:** May I turn back to the question of competition, in particular the problems facing aspirant banks in trying to get authorisation? I wrote earlier this year to the FSA asking them to give me figures about how many banking applications had resulted in a licence, and this includes ab initio applications; foreign passporting in; and also authorisations for existing licences. It is fairly dismal reading. In 2010, 26 institutions came forward and just 11 licences were granted in one form or another. In 2011, 24 came forward and just seven were granted.

One of the common complaints that I have had from a number of people who were trying to go through this process was that there was no incentive for staff at the FSA to grant banking licences. Indeed, if you look at what has happened over the last few years, with the negative press towards the regulator, there is actually a disincentive. The default position of the person signing off the application is that it is safer to turn somebody down than it is to allow a licence. Do you have any thoughts on that?

**Andy Haldane:** I am not close to the detail of the FSA authorisation process, so I cannot speak with any great authority about that. In the light of what we have been through for the last four or five years, in some ways it is understandable, if regrettable, that everyone is feeling a bit risk-averse, be it banks in managing their balance sheets or regulators in managing their own responsibilities. I think it is somewhat predictable that there is a degree of caution or risk aversion when it comes to granting extra licences, as there is caution in taking any risk across the whole system right now.

Could and should more be done to expedite that process and to lean against that caution? As I understand it, that is the process that the FSA are themselves going through right now. I am not close to the detail, but it strikes me that that is directionally right, and we will see what pops out at the end of this year or the beginning of next.

**Q601 Mark Garnier:** One of the other comments from some of the smaller banks that I have met, of which I think there are about 47, some with a balance sheet as small as £50 million, is that the response of the regulator to the crisis has been to really drill down very

heavily into the activities of the bank. Where you may have a bank that knows personally all its customers, they are being required to do a series of quite expensive box ticking, so you see a number of banks that charge for current accounts increasing their fees by a factor of three or four just to cover the cost of the extra regulation. Do you see the cost of regulation with these specific banks being yet another serious barrier to entry?

**Andy Haldane:** I think it could be. I am hopeful that the direction of travel, certainly of the new Prudential Regulatory Authority when it comes into being in April next year, will lean against those tendencies. Their supervisory philosophy is to focus not just on the big risks within firms, but on the bigger firms. I hope that that somewhat different judgment-led philosophy will over time lessen some of the costs you mentioned for the smaller businesses.

About a year ago, I had a conversation with the CEO of a big bank who made the extraordinary suggestion that they knew they were well regulated because they had 50 banking supervisors on site looking at them. I said, “If that is success, I don’t know what failure looks like.” That strikes me as supervisory failure, to have to do that. We need to lean against what seems to be the inexorable trend towards more regulation and more regulators—it simply does not work. Not only is it costly for the firms and the taxpayers, but it also just does not work. That goes back to the question of incentives and structure. The benefit of a structural solution is that it does not require you to have 50 supervisors on site, perched at the end of desks, inquiring about spreadsheets; it focuses on the big risks and puts incentives back in the right place.

**Q602 Mark Garnier:** You mentioned the PRA, which obviously will share the burden of regulation and of assessing new applications for a banking licence. Do you think that the PRA should have a competition mandate?

**Andy Haldane:** Yes. I think a situation that we need to avoid is the one that we saw pre-crisis with the FSA. So we had the FSA riding two horses, prudential here and conduct of business there, with the result that it essentially ended up cross-eyed and missed both. We had a prudential crisis from 2007 until 2009, and now we have a slew of conduct issues that it missed. The FSA missed in both directions. So I would be very reluctant to put the new PRA in a position of being similarly structurally schizophrenic, looking two ways at once and risking missing both. I think that it is possible to do both things by retaining safety and soundness as a primary objective of the PRA, but augmenting it—I think as is tabled—with a secondary “have regards” objective around promoting competition. It is very important, as you mentioned in your first question, that some weighing of competition and of competitiveness and innovation concerns does happen for the prudential regulator, and I thought that that formulation struck a nice balance, without suffering the risk of looking two ways at once.

**Q603 Mark Garnier:** That is very interesting, thank you. Let me turn to the shared platform, which you talked about a bit earlier in response to the Chair’s questions. You talked about the advantages of a shared clearing platform for new entrants. I agree entirely with that. Is not one of the problems that, in the system we have at the moment with the Payments Council, the vested interests are in control of the majority of the system, and there is a reluctance on the part of the people who own the banks and all the rest of it to go down this route, because, if you are one of the big four, you do not want to encourage a lot more challenger banks coming in and challenging your market base? Do you think that we have a wrong system there?

**Andy Haldane:** There is a Treasury consultation document out on just this issue at the moment, which effectively captures some of the concerns that I think you rightly express.

They are of long standing. I know that you have had Donald Cruickshank before you, whose report back in 2000 or 2001 suggested a radically different governance structure for payments, effectively with a separate payments regulator—a Paycom—but that was rejected at the time. Since then we have had several vintages. We had an Office of Fair Trading Task Force, which, in turn, gave way to a Payments Council. Both of those were somewhat toothless, for the reasons you say; they remained dominated by not just the industry, but the big banks within the industry. I think now is a right time to think about alternative models, which should certainly include, as the consultation document includes, a formal payments regulator. I certainly think that whatever governance body comes into play has to have some overt public interest objective, which leans against the inevitable and natural tendency that you mentioned for banks to structurally under-invest in payments technology.

**Q604 Chair:** That payment system review was driven by a Treasury Committee recommendation, as you know. I was a bit perturbed when you said that the PRA competition objective would be a “have regards” objective because we have had extensive evidence, certainly on the Treasury Committee, that all the FSA’s “have regards” objectives were examined by lawyers and then quietly ignored—lawyers acting for the FSA—on the grounds that you can always say that you have had a look at it and then ignore it, which they duly did. Are you confident that we will get any behavioural change, as a result of the amendment put down in the Lords, to the PRA’s treatment of competition?

To add a further point, you began by saying that it was very important that the PRA should pay attention to market entry, and this is touching right on that issue.

**Andy Haldane:** I don’t think I have a clear or good answer to your question. Only time will tell, I think, whether that “have regards” provision engineers some behavioural change at the new PRA. I hope it will. It strikes me that those competition issues have been the dog that has not barked so far during the crisis, and I am pleased that that is beginning to change, partly through this Commission and partly more broadly. I think that it will be much bigger part of the debate, looking forward, than it has been so far, and, that being the case, I am hopeful that the PRA will take that debate into account in its regulation.

**Q605 Mr Love:** May I go back to the issue of the shared banking platform? As Mr Garnier mentioned, there are many vested interests, and you commented earlier on the seven-day proposal, which came about because the banks said it was too expensive to move to full account portability. How do you respond to the criticism that a shared banking platform would be very expensive?

**Andy Haldane:** What I do think we need here is a full, objective, arm’s-length quantitative evaluation of the costs and benefits of the proposal, which is something that, so far, we have singularly not had. My personal view, having looked a little bit at the evidence, is that no change is not an option. Fully 70% or 80% of big banks’ current IT spend, which is very extensive, is about the maintenance of legacy systems. Many of those systems are antiquated, and we need only think back to the unfortunate events at RBS a few weeks ago to see the costs of having such antiquated legacy systems. It strikes me that the time is overdue for something of an IT transformation within the banking industry. It is one of the real peculiarities that banking, which is an information industry, has not invested more wisely in IT to improve the customer proposition.

Change needs to come. Maintaining legacy systems is costly and, at some point, will cease to be an option. We need to consider the cost-benefit, but there could be a strong case for materially upgrading their systems. The technologists and IT specialists I have spoken to seem to think that there is no technological reason why it is not possible. It has happened in

other industries; this is not shooting for the moon. Other industries have done it, and what's more they were doing it 10 or 20 years ago, so it is technologically feasible. I also think that the costs of this have fallen like a stone and continue to fall like a stone. Once you weigh up that no change is not an option and that change may not be as costly as some might think, the cost-benefit calculus might come out in the direction of radical change, rather than incremental change. That might not just be the best thing for society and for customers and their offering, but for the banks as well, provided they take a long enough perspective on what that technology investment might deliver.

**Q606 Mr Love:** The banks and those with vested interests will focus on the cost element of that cost-benefit analysis. How do we get across the benefits of such a proposal to ensure that at least the public will understand what benefits they will receive as a result of this transformation?

*Andy Haldane:* Here, again, the best way of setting out those benefits as clearly, coherently and rigorously as possible is to have some review at arm's length from the industry. There has been a review of the options, including the more radical ones, but that was commissioned by the industry. Some of the cost-benefit calculus within that was somewhat narrow and did not speak to the broader benefits of a transformation in the customer proposition. It did not speak at all to the benefits of greater entry. It did not speak at all to the benefits in terms of a reduced incidence of too big to fail. All of those were airbrushed out of the analysis. We need a proper, full and frank evaluation of the costs and benefits that, as you say, importantly takes into account the broader societal benefits of having a transformed banking proposition.

**Q607 Mr Love:** As well as talking about the platform, you also talked in a recent speech about the shared network utility. Earlier, you made a comparison with the proposal put forward by Don Cruickshank in his report in 2000. Can we just explore what you mean by a shared utility and how it would be similar or different from that proposed by Don Cruickshank?

*Andy Haldane:* There are two things here. One is a central piece of infrastructure that would be the bedrock of the payments industry. It would store the core customer information and provide the technology for ensuring that payments could, at lower cost and high resilience, be transferred between people. The other is whether you would want to have some regulatory agency ensuring that the payments industry was delivering an efficient and safe service to customers, which was the Donald Cruickshank proposition back in 2000. If you had an infrastructure—this shared platform—that was operated as a utility and had some overtly public sector, public policy objectives, there is a less-strong case for needing a regulator on top of that. Many of the benefits would then be delivered by the utility, rather than needing regulation on top. Without this shared payments platform and that infrastructure, and if you preserved the existing infrastructure, which is decentralised to the banks, there is a strong case for thinking about Cruickshank options and having a layer of regulatory oversight on top of that. They are two slightly different things, but they are strongly linked.

**Q608 Mr Love:** Our inquiry is primarily focused on standards. I just wondered about the two proposals that you have put forward about the platform and the utility. Are standards an issue? Would it make a significant difference to the standards in the industry, if we introduced it?

**Andy Haldane:** What I think it would do is prospectively change the proposition for bank customers. I think this would potentially deliver some real benefits for them, and that would in turn help restore some of the public's faith and trust in what banking is there to do. So far, there have been too few examples, from the customer end, of their lot and their service having improved. This would be a good-news story, and banking needs a good-news story. It is something to restore trust.

At the moment, we have lots of words from the new management within banks about making themselves socially useful; here is a concrete way of making that happen. At the moment, the customers—the public—are understandably sceptical. Here is something concrete that can turn those words about social usefulness into something that customers would benefit from, day by day.

**Q609 Mr Love:** May I ask one final question? I could hear the chairman humming and hawing. I am intrigued by your highlighting of the Dodd-Frank 10% issue. In a recent speech you talked about the size of banks and whether universal banks delivered an economic benefit above a certain size. If we simply put to you the very broad question, “Should we limit the size of banks, and if so how should we do it?”, how would you respond?

**Andy Haldane:** I have had a nerdy fascination with the question of whether bigger is better in banking—whether it makes for extra efficiencies. We have done quite a bit of thinking and research on that. When we do the analysis properly, or as well as we can, then, as you say, it is very difficult to discern significant benefits for banks that have balance sheets much beyond, let us say, \$100 billion. That is less than a tenth of the size of some of our bigger banks currently.

There are different ways of cutting the cake. Lord Lawson mentioned one, which is the structural separation route; that would be a way of lowering the size threshold. I am struck by some of the direction of travel of the debate in the United States, where we have some Federal Reserve regional bank presidents arguing for size caps, some US Senators arguing for size caps, we have the vice-chairman of the FDIC, the deposit insurance agency, arguing for size caps and, just as recently as two weeks ago, we had a vice-chairman of the Federal Reserve board who leads on financial security floating the notion of a size cap. I do not personally have a strong position on this, but it strikes me that it is an issue that we should work through and reach a view on.

The Dodd-Frank rule you mention is a market share rule over the deposit book. I think that takes you some way. It does not fully solve the issue of being too big to fail, because it does not prevent that deposit book from still being enormous, and so the banking system from still being enormous relative to the economy as a whole. If you were really worried about the big banks imperilling the solvency of the state, you would cast your size rule not in terms of a market share of the deposit book, but in terms of a share of the economy—a share of GDP. That is the direction that the US debate has taken.

**Q610 Chair:** Going back to early exchanges, you put up a good case for the need for a comprehensive cost-benefit analysis and doing some serious platform work, not least to help restore trust in banking. However, we need something that is going to be done in a way that will be credible and will not be ignored by people with the moral authority to induce banks, if necessary, to be more co-operative in thinking this through—after all, we will need their co-operation to do this. Do you think the PRA is probably the best place to do this, or to commission it? Who else are they going to take notice of, if not the PRA?

**Andy Haldane:** It could be the PRA. It is important, Mr Chairman, to distinguish between the body that is lead-managing the project, where it may make some sense for that to be a prudential agency or a competition agency—

**Q611 Chair:** Touching on the “have regards” point.

**Andy Haldane:** It touches on that. There would certainly be some benefits, however, if the inputs to that review came from a broader range of individuals. I would want to bring competition economists and technology companies into the picture to get as accurate a picture as possible of how much this would really cost.

**Q612 Chair:** We are clear that the Bank of England does not have the in-house expertise to do that. I am asking who is going to lead the project, and you are saying that, yes, the PRA might be a suitable place.

**Andy Haldane:** It is certainly one option.

**Q613 Lord Lawson of Blaby:** British bankers will say that, if you are going to impose, say, size limits on British banks, or a number of other things that may be very desirable in themselves, you will disadvantage British banks compared with their competitors overseas, which is unacceptable. I believe there is a good answer to that, but I am interested in your answer.

**Andy Haldane:** Just to be clear, I wasn’t today formally proposing size limits. It is an option.

**Q614 Lord Lawson of Blaby:** Let us look at the various options that you might think are desirable. Size limits are a possibility. They are an option, and full structural separation, the complete Glass-Steagall, is another, and there are various others that, on their merits, may seem persuasive, but the British banks will say, “You are putting us at a disadvantage compared with our overseas competitors, and that is unacceptable.” What is your answer to that?

**Andy Haldane:** A very interesting piece of research came out earlier this year that looked at the relationship between the size of the banking system and growth in the economy. That piece of research was very significant because it overturned a piece of orthodoxy that had existed for 20 or 30 years, which is that bigger is better: the bigger the size of your banking system and the greater the extent of financial depth, the higher the growth. What the study shows is that that is only true within limits. Roughly speaking, based on their numbers, as soon as credit to the private sector exceeds something like 100% of GDP, those benefits begin to fade away. Indeed, they go into reverse. One of the reasons for that is that you find both people and capital, human resources and financial resources, are being sucked into finance and away from the non-financial parts of the economy in a way that retards and slows down productivity growth in those non-financial parts of the economy.

If you believe that research and take the results at face value, it suggests that, far from there being some cost in limiting size, there may actually be some broader benefit to the non-financial economy from having those limits in place. I do not quite know whether that threshold exists, and I am not saying the research cannot be questioned. The proposition back to the financial sector would be that some limiting of bank balance sheet size could actually be net beneficial to the broader economy, to resources flowing into the non-financial sector, in particular, those sectors that are reliant on skilled labour. The research and development

intensive industries, the study suggests, are particularly badly affected by physicists, mathematicians and scientists flowing into finance, of which there has been a real flood over the last 20 or 30 years.

I apologise for being rather researchy in answering your question. While this might not be the best answer for the financial sector narrowly speaking, it may be a better answer for the broader economy.

**Q615 Lord Lawson of Blaby:** It is very interesting research, but my question was not about the size of the financial sector. It was about the size of the individual institutions, which make up the sector. What is your answer to that?

**Q616 Chair:** You seem to be conflating two things. What is the answer to the point about bank size, not bank sector size?

**Andy Haldane:** In some ways, they join in the middle. I am not proposing it, but let us say that you were to impose some size limit relative to GDP on an individual bank. That, by itself, would place some limits on how big banking is, and its entirety would be relative to the economy as a whole. As I say, on the basis of existing evidence, once you get to banks that are in excess of \$100 billion in assets, it is hard to discern their delivering additional efficiency benefits to the customer. That would be the proposition back, that the efficiency benefits are exhausted at a size threshold for individual banks and may be exhausted at a size threshold for the system as a whole.

**Q617 John Thurso:** I must say that I found that last answer absolutely fascinating. It confirms all the suspicions I had, and I shall read the research. It is clearly something that we should take very seriously.

I want to move on to corporate governance. Before going into that, can I ask you about risk? Clearly, one of the most important functions of corporate governance is to weigh up the risk appetite of the institution. Equally, risk is one of the most important aspects of regulation in looking at how much risk there is in the accumulation of institutions and to society. Therefore, to a certain extent some risk should really be dealt with at a regulatory level and some dealt with at the board level. Where is the balance to be struck? At what point should we be looking to regulate because we simply cannot expect the institutions to do it?

**Andy Haldane:** As you say, Mr Thurso, the first line of defence has to be risk management within the firm. We have seen a significant scaling up in both the resourcing and the influence of the risk management function in banks over the last four or five years. I was at a dinner with the chief risk officers of the biggest banks on Monday, and I think that there has been a sea change—one that they all welcome, of course—in the potency of their voice at the main board, through the risk committee most obviously.

Even within firms, there is a significant distance to travel before risk management is where it needs to be. The reason why I say that, which goes back to the earlier point about IT systems, is that very few, if any, global banks can conduct effective consolidated—across the whole balance sheet—risk management. Many of their systems simply make that, if not impossible, then certainly a chore. So there is still a job of work to be done about putting IT systems and risk management systems on a wholly different footing from that of the past. That is not just my verdict. If you look at the reports from industry, they say that the systems are not in a state of health that allow this holistic, “across the balance sheet” aggregation of risk. Of all the shocking things that I have come across in the last four or five years, among

the most shocking was the inability of the biggest banks in the world to simply add up the numbers. There is a lot to be done to put that in a better place.

The IT spend that has occurred has tended to be focused on business lines. It has not allowed a joining up of core data across the whole balance sheet. That needs to be done. It is a prerequisite and an essential building block of effective risk management. It does not exist at present in too many big firms. That is the first line of defence, I think.

The second line of defence, probably, is the board risk management committee. As I say, my sense is that they are sitting up and paying attention to a much greater degree than has been the case.

**Q618 John Thurso:** Clearly, when you have just had a major setback/disaster/crisis, everybody is completely alert, but 20 years down the track the people who suffered have left and a new generation has come up. Is there anything we need to do to institutionalise into boards that risk awareness on the risk committee, so that they do not just slip back to being the people you consult but do not necessarily pay attention to, but are rather where we want them to be, which is the people you actually pay attention to?

*Andy Haldane:* Could I try on you a line of thought which I think speaks directly to your question, but is a bit of a detour? I apologise for going into the small detail.

**John Thurso:** Over to you.

*Andy Haldane:* It has struck me over the last 12 months that the corporate governance, the company law system that we have in this country, in particular as it pertains to banks, is somewhat unusual. Relative to the international norms on company law, the UK is towards one end of the spectrum in the primacy it attaches not just to the interests of shareholders, but to the near-term needs and desires of shareholders. So you have the UK over here, with the US, and then a spectrum that spans out along there. We then have banking, where shareholders comprise the smallest of slivers of the balance sheet, typically less than 5%. We also have a banking system that is five times GDP in this country.

Taking those three propositions together, what it means is that you are vesting an enormous amount of power in a small cohort of stakeholders: those owning shares in the biggest banks. There is a question in my mind—given the broader interests in banks being safe and not being too risky—about whether that corporate governance model that places primacy on short-term shareholder interests is the right one for banking and, perhaps, for other companies, too.

In a lecture I gave last year I raised the question, would we not want to enfranchise a broader set of stakeholders in banking? That could be debt holders in banking. In future, we hope that those investing in bank debt would be susceptible to loss, would take the hit and would be bailed in, in event of the bank going bust. That being the case, there may be a case for giving those debt holders a voice, a vote, in the running—the corporate governance—of the bank. They do, after all, comprise the remaining 95% of the balance sheet. A bit odd, in a way, to be disfranchising the majority in that situation, when it comes to running banking.

I apologise for the digression, but it loops back to your question about whether the existing corporate governance structure adequately reflects the risk as borne not just by equity holders, but by wholesale depositors in banks. Retail depositors in banks have a stake in that risk, too. Is there a case for turning that stake into a voice and possibly even a vote? That, for me, is an interesting proposition.

**Q619 John Thurso:** Is that your Wincott lecture?

*Andy Haldane:* It is.

**Q620 John Thurso:** You make exactly that point—I found it a fascinating lecture to read. I will move on to shareholders, if I may. If you look at both Walker and Kay, they say that what we really need to do is get shareholders more engaged. You are making the point that they are actually a fraction of the stakeholder community. Are we actually barking up a bit of blind alley if we look to enfranchise shareholders and bring them into this, in that, first, banks stocks are now a commodity that is traded on a very short term; secondly, as you point out, they are a very small part of the overall picture; and thirdly, they do not have any real control? The more we look to shareholders, the less we are keeping our eye on the ball of what we really ought to be doing.

*Andy Haldane:* I think that the conclusions of John Kay’s review of short-termism, broadly defined, were well targeted in empowering the asset managers, who these days hold the power when it comes to managing shares in many companies, not just banking companies. I thought that the John Kay proposals, having shareholders sit up and pay somewhat greater attention than they have hitherto, were very sensible to lean against the “ownerless corporation” problem. However, I think the point you raise is right: there are stakeholders beyond shareholders about whom we might think more imaginatively. Other company law and rules in other countries do take them seriously. Existing company law in the UK does have these “have regards”—this broader set of stakeholders—but it is not clear to me how much regard is paid to that broader set of stakeholders in the actual running of firms, not just banks.

**Q621 John Thurso:** That takes me on to my last question in this area, which is again from that lecture and your comments on return on equity. It seems to me that to focus the entire incentive of the management around a relatively high return—and, of course, the corollary of high return is high risk—of one very small part of the balance sheet is to completely skew what it is we are actually looking for from banks. That is a point you make in your lecture. What do you think we can do about that?

*Andy Haldane:* One practical thing that can be done is to take a further long, hard look at the existing rules—the code we have for remuneration. We now have a remuneration code for certain staff—the more senior staff—within financial firms. That takes us some distance, but for my money not sufficiently far, in leaning against the risk-taking incentives. For example, the code does not prohibit the use of risk unadjusted metrics for evaluating performance, such as return on equity or earnings per share. I think we can do a better job of ridding the remuneration contracts of those short-term performance metrics. The code could go further in extending—elongating—the period over which variable compensation, or bonuses, is deferred. Currently, that is held in a corridor of between three to five years, which is much too short to cover the cycle in finance that now operates. The HSBC model of deferral until retirement strikes me as striking a much better balance in aligning the interests of staff with those of the customers and the broader stakeholders. I think there are things that can be done with, for example, the remuneration code to lean against these short-term risk-taking incentives.

**Q622 John Thurso:** My time is up, but may I ask you one very quick question? To what extent does that call into question the concept of variable pay for those at the top of institutions, whose pay ought to be to do exactly the job that is described, and who are the guardians against those who ought to be on variable pay—the people where you want to keep the cost low when you are not doing the trading or the advising?

**Andy Haldane:** The remuneration code does not tackle your bigger question; I accept that completely. If that variable compensation component was locked away or deferred until the point of retirement, however, that would make quite a difference to incentives. It would take us back closer to, although not quite as far as, the old partnership-type model, where you have skin in the game right up until the death. It does not quite take you all the distance, but it nudges you in that direction, which is one reason why I find it attractive.

**Q623 Chair:** Let me take you back to something you said in response to a question quite near to the beginning of the session. You set out a different point for the ring fence, in which you described two companies with very different boards, different governance structures, different funding, different remuneration and even different HR. How are you going to make all that workable within the same overall group, and how are you going to handle fiduciary duty for the holding company? Have you thought about that?

**Andy Haldane:** I have not thought about that at great length. The point was raised earlier by Lord Lawson that this would pose a problem for governance at the holding company level, and how to achieve that.

**Chair:** You are coming back to see us near the end of the month, so we will take another look at it then.

**Q624 Lord Turnbull:** I would like to pick up two points from Lord Lawson's questioning. You argued for a stronger, higher, less permeable ring fence; you then made a comment on location. Having changed the strength of the ring fence, were you moving it in or moving it out?

**Andy Haldane:** There is a case for moving the ring fence outwards to mandate a broader set of activities as lying within. Currently, the only mandated activities are deposit taking and overdrafts. For me, at least, the set of financial services for which you would need to assure continuity and greater protection would be broader than that. It would encompass some of the activities currently called permitted but not mandated, such as loans to companies and particularly to SMEs. It would include trade finance, and it might include mortgages of various types. I would be mandating a somewhat broader range than is the case currently.

**Q625 Lord Turnbull:** The second follow-up question is that you have subscribed, as many witnesses have done, to cross-contamination for investment banking. A lot of people think that they can see that, but I wonder whether it is really an adequate explanation of what is going on. Many things went wrong in banks that were a million miles from investment banking, such as Northern Rock, Bradford and Bingley and probably HBOS; and the change that David Walker and Alan Budd described, from relationship to transactional banking, seems to have gone on in areas that do not seem to be very close to investment banking. Do we need some further explanation of why this more transactional style of banking has come into being?

**Andy Haldane:** I completely accept that this cultural cross-contamination is not the full story of why we ended up where we ended up. I fully accept that some rather narrower, ring-fenced-type banks made some terrible bets, were reckless and will certainly never be riskless, as you say. The ring fence is not about separating banks that fail and those that don't or those that are risky and those that aren't. That is not the way I would think about it, but I do think that some of the sales culture that grew up around the retail banking proposition was borrowed or was affected by the culture that operated within parts, at least, of investment

banking, and that did come with some costs. Very interestingly, we have seen—I guess over the last couple of weeks—at Lloyds and then Barclays attempts to reduce or, indeed, remove those sales incentives from the retail customer proposition. I accept that it is not the full story, but I think it is part of the story and part of the answer.

**Q626 Lord Turnbull:** Other observers, including Charles Goodhart, formerly of the Bank, have pointed out that good old-fashioned bad lending in the property sector is a very big part of this story. Are we paying enough attention to preventing a repetition of that?

*Andy Haldane:* Charles is right. He is the financial historian on this, and my reading of history would be similar to his—that property all too often is the common denominator of getting things wrong. Is enough attention being paid to that? I hope so. The new standards for both bank capital and liquidity are meant to raise the bar so that there is less risk of a turn in the property market causing banks to fail. I think that helps. Interestingly, the bigger ingredient of bank failures in the past has been not so much residential property as commercial property. That is a particular area that I think the prudential side should look at very closely when thinking about how much capital, how much risk management, is appropriate to prevent a repetition. Commercial property lending is fully half of all lending to companies in the UK, which is a hugely imbalanced situation to have found ourselves in.

**Q627 Lord Turnbull:** It goes way beyond simply property companies; it is all those businesses that are property based. May I come to your views on complex models? You presented this paper at Jackson Hole and you got support from the director of the FDIC and then a riposte from the secretary of the Basel committee. Are you really saying that we should dispense with these things or that the balance between looking at aggregate measures and the internal model needs to be adjusted, in which case isn't a reconciliation between your view and the Basel view possible?

*Andy Haldane:* I think a reconciliation is possible. What I was not saying at Jackson Hole in the paper you refer to is that we should move to a single club—be a single-club golfer. That a single measure was always and everywhere going to give you exactly the right answer was not the message I wanted to convey. The message I did want to convey, however, was that the existing Basel apparatus is broken. It is shot through with complexity, as I tried to point out in that paper, and as a product of that, it is also shot through with inconsistency. You do not have to take my view for that: that is the view of the investors putting money into banks, who have largely lost faith.

**Q628 Lord Turnbull:** Here you are not just referring to Basel II, but you are criticising even the proposals that are being developed?

*Andy Haldane:* Basel III is a very clear improvement over Basel II—I would say that as I was involved in drawing it up, but it is also the case. It moves to a much simpler measure of bank capital—if you like, the numerator of the capital ratio. It also introduces a leverage ratio, which we quite like because it distances all of this from complex modelling and complex risk weights. Those are big pluses for Basel III over Basel II, of which sight should not be lost. It is a real improvement. Of course, it also raises the bar by raising the level of capital that banks need to hold. All those are big positives, and I would be the last person in the world to say that there were not big benefits of Basel III over Basel II. But let's be clear: both Basel II and Basel III are built on the shakiest of foundations, because on the denominator of that capital ratio is a measure of the assets of the bank, weighted by risk.

**Q629 Lord Turnbull:** Which they have done the weightings for?

*Andy Haldane:* You have alighted precisely on the key point, Lord Turnbull. The significance of moving from Basel I to Basel II was not so much the move from very simple measures to very complex measures—I will come back to that. The key thing was that the choice over those risk weights moved from the regulator to the firm. The firm was then setting its own standards through the risk models that it was—

**Q630 Lord Turnbull:** Don't you think it is ironic, then that, in the world of insurance, which I partially work in, the directive that is on the table—but hopefully dying—is trying to push us into the box that you are trying to push banks out of, and the dominance of internal models there will produce exactly the same adverse effects as it has in banking?

*Andy Haldane:* I take it you are referring to Solvency II, as it is known and loathed?

**Lord Turnbull:** Yes.

*Andy Haldane:* I think it does risk falling foul of the same critique. In many ways, Solvency II may be making even more of a leap of faith than was Basel II or Basel III, because the risk models used for banking were beginning to be developed in-house at the banks; they were being used to manage the risk. I think that that was much less obviously the case with insurance, so I think many insurance companies are having to invest in risk management models, not to manage the risk but to manage the regulation. That is true in banking as well, and that is the ultimate in socially useless activity where you are building a model—

**Q631 Lord Turnbull:** We will come back to banking, or at least come to both. Is one of the effects of heavy reliance on internal models to disenfranchise the lay, non-executive director so that when the dialogue goes on, it is the experts of the bank who talk to the experts of the regulator, and regular guys like me do not get a look-in?

*Andy Haldane:* I think you have put your finger on the problem. It strikes me as a thankless task to enter into a regulatory dialogue on precisely what amount of risk a bank should hold against a very specific asset. Having a negotiation about the capital held against each asset in the balance sheet strikes me as a game of cat and mouse that no one can win. It is certainly a game that the regulator cannot win, because they will always be one step off the pace. In what we have now, the inconsistencies that the current modelling approach gives rise to seriously call into question the credibility of the regulatory ratios that have been published.

Let me give you a concrete example: Let's say that both you and I are a bank. We both have an asset; it could be lending to a sovereign, to another bank or to a corporate. We have asked the question, "How much capital would your model suggest that we hold against this identical exposure?" When you ask the banks that question, the quantum of capital across banks can differ by a factor of three or four, or in some cases even more. I spent weeks, months, years of my life arguing over tiny slivers, basis points of capital, around an international table, and it turns out, when it comes to the practical reality, that the actual amount of capital being held by banks against identical exposures could be half as big or twice as big across different banks.

As long as that inconsistency exists, Basel faces a fundamental problem. What is the solution? Transparency is part of it, and we can be more transparent, but transparency by itself will not rid us of the complexity. If you think about simpler fall-backs, it could be ridding ourselves of models and having fewer categories of risk asset; it could be imposing as regulators floors on those models; it could be placing greater emphasis on measures that do

not require complex risk calculations, such as the leverage ratio. Those types of measure are the bridge between where we are and where we need to be, but sitting still is not an option, because the existing system is not working for investors, for banks and, increasingly, for regulators. If the system is not working for any of those three, it is not clear that it is working at all.

**Q632 Lord Turnbull:** Finally, you expressed some criticism of the regulatory inheritance. It seems to us that there we can already discern a change in mindset from a PRA side of things—FCA looks more business as usual. Is that because its business is different, or do you think that there needs to be some change there, to put more of the big picture into its work, in the way that you are trying to inject that into the PRA’s work?

**Andy Haldane:** It is difficult for me to speak with any authority about the FCA philosophy. It is early days for the FCA people, and Martin Wheatley is fairly new in post, so I think they are still working themselves towards a different philosophy. We have already seen pretty significant change on the FCA side of the fence, given the seriousness of the sequence—the slew of scandals and mis-selling—so I think we have already seen a change in philosophy, which is welcome given the extent of the problem that has become apparent over the past six to 12 months.

It is important, however, not to overshoot. We would not want to put ourselves in a position in which banks were sufficiently scared and scarred not to wish to innovate—to bring new financial products—for fear of, ultimately, being caught out down the road for having produced something that is not quite doing what it says on the tin. So it is a question of balance there, and it is a question I am sure that Martin will seek to answer—balancing the conduct and the competition dimensions of the FCA objective will be important I think.

**Q633 Chair:** Yes, but are we getting the balance right? That is a very diplomatic reply, but are we getting the balance right at the moment? Is introduction of product regulation putting at risk innovation?

**Andy Haldane:** The honest answer, Chairman, is that at the moment I do not know. It is very early on. The FCA does not really exist as an entity yet, as you know, and Martin has not been in position very long, so time will tell. It strikes me that the way the FCA’s objectives are being cast does give hope that these two things will be balanced.

**Q634 Chair:** The FCA has been described to me as a standing army of regulators, and what we really need are SWAT teams. Is that a view you recognise?

**Andy Haldane:** It is not a view I recognise, but it is one I agree with. In terms of our approach to supervision of financial firms, be it conduct or prudential, I find attractive the idea not of a standing army, but of a team that might move more flexibly to assess the risk competence of different firms. It is almost, to use a statistical expression, randomised sampling—not looking at every piece of a jigsaw, but taking a deep-dive look at one piece selectively. I think that is embedded in the supervisory philosophy of the PRA in future: you don’t look at everything, but you surprise and randomly say, “Tell me about this.” If this is fine, it sheds a good light on the rest of the business; if it suggests a problem, you expand from there.

Returning to the point I made earlier, 50 regulators sitting on site strikes me as failure, not success. That is what happened with the US banking regulators pre-crisis. They did not catch the mice.

**Q635 Chair:** So you are looking for leaner, slimmer regulation across the board, but more effective.

**Andy Haldane:** I think so. That is why I place so much emphasis on structural reform. For me, its real benefit is that it would reshape positively incentives within the firm in ways that would not necessitate an intrusive, intensive approach to regulation. I think that works not just for the regulator, but for the regulated as well. If you are CEO of a big bank, there is nothing worse than having half your time set aside to manage the regulators. That strikes me as perilous.

**Q636 The Lord Bishop of Durham:** To carry on from where Lord Turnbull was going, it strikes me that in your lectures a word you used less than I expected, although obviously fairly frequently, is “confidence”—the whole issue of confidence in the banking system and individual bank institutions. As we know, confidence fails when the shadow of the unknown unknowns falls across a bank, and people simply do not have a clue what is happening. You used the word “transparency” a few moments ago. It seems to me that your lectures demolish superbly almost every option for valuing banks. In terms of how we supervise and regulate, and of how people look at a bank, a key thing is to have some knowledge of what it is worth, what it is, and what the assets are, but you have said very effectively that many of the models give false certainty—you have talked about the variations in capital adequacy and so on. How do you approach, from a supervisor’s point of view, the business of working out what a bank is worth?

**Andy Haldane:** The problem you mention of valuing banks is acute. I think you need look no further than at the prices that investors are placing on banks to see the extent of that uncertainty right now. Banks trade at prices that are considerably less than the book value of those businesses, and a hefty chunk of that is uncertainty about not just what is on their balance sheet today, but what might be on it tomorrow.

What can we as regulators do to blow away some of the current fog—some of that uncertainty? One thing we can do is require a much more detailed and comprehensive set of disclosures from banks themselves about the assets they are holding and how they are valuing them. There is an initiative by the Financial Stability Board to set out a disclosure template—I think Douglas Flint mentioned that earlier in the week—which would do a good job in blowing away some of that fog.

A second area in which we could do somewhat better, working alongside the accountants—this is an issue that Lord Lawson has thought about a lot—is to ensure that accounting standards and accounting rules better reflect the special characteristics of financial firms, especially of banks. Again I go off on a slightly technical tangent. The way that losses on loans are currently accounted for is not as prudent as it could be or should be. Those losses are only recognised and provisioned for after they have actually happened, whereas a more prudent and useful treatment would be to look through, not just to where losses are, but to where they might go over the lifetime of the loan. This is so-called expected loss provisioning, as distinct from incurred loss provisioning. We need to put in place—I know the accounting standards setters have been on the case for several years—a better regime for provisioning for loan losses.

Another area on the accountancy side where we could do a better job is in valuing some of the assets on banks’ books. We have been working with the FSA and with international colleagues over the past 12 months to put in place a so-called prudent valuation framework for bank assets, which makes it clear not only that assets should be valued prudently, but that there is a potentially broad range of uncertainty around that valuation. When you have a firm with assets the size of UK GDP that are almost impossible to value, a point-in-time estimate

of solvency is perilous and very difficult to execute. Just making clear to investors the range of possible uncertainty would be doing them some service in helping them price the risk better than is the case right now.

These are two or three examples on the transparency and accounting side where we can and should be doing a better job of laying to rest some of the uncertainty. Ultimately, one of the by-product benefits of things such as structural measures would be to make the balance sheet somewhat simpler and more homogenous, and therefore somewhat easier for investors to value. I mentioned that the history of Glass-Steagall was very telling in this respect, because it was every bit as much the market delivering separation as it was the politicians delivering separation. The market was delivering separation because of the same uncertainty effect that you mentioned at the beginning, and right now, we see some of the same forces at play. Market investors are saying, “If we can’t value this, perhaps you shouldn’t be holding it.” In consequence, we have banks thinking about divesting from some of their portfolios that are the most complex to price. That combination of accounting, regulation and market forces could help to put us in a better place.

**Q637 The Lord Bishop of Durham:** My follow-up question to that—I have one more question, which is about incentives to regulators—is that you seem to be taking us back to the modelling. You want to see how much you will lose over time, but we know, not only in the banking industry, but in what I used to work in, which is natural resources, that working out what you cannot see, such as oil in the ground or the future value of a loan on the basis of a model usually ends up with a sort of perverse rediscovery of the efficient markets theory that you can create a model that tells you the truth, whereas in fact what you have got built into that model is just a series of attempts to forecast the future, and we all know about that. Is that not where that particular solution takes us?

*Andy Haldane:* The point you raise is completely fair. The assets that are particularly difficult to understand, for which there may not be any observable price and you have to rely on models to value them, are called, in the language that banks use, level 3 assets. There is no observable price and you have to resort to a model. I think you would want to build into the confidence intervals—the bounds around that—some very wide spread that recognises the risk of the model being completely wrong, which we know, with a probability of 1, is typically the case. For those assets where you are reliant on models, the uncertainty bounds need to be even broader than for the ones for which you have observable prices.

**Q638 The Lord Bishop of Durham:** It seems to take us back to what you have been saying quite a lot about simplicity.

We have talked a lot about incentives to the banks, perverse incentives and the balance, for instance, between simple measures of leverage and complex attempts to weigh risk. We hear less about incentives to the regulators. To what extent are there perverse incentives both preventing high-quality supervision of banks and constraining markets? I am thinking of something that has already been alluded to: what you might call, not regulatory capture, but regulatory comfort, where it is easier for the regulator to keep everything simple, because better the devil you know than the devil you don’t. Where do you see perverse incentives preventing high-quality supervision?

*Andy Haldane:* One factor here that I think is relevant—this takes us back to our earlier conversation—is the complexity of the regulatory rules. The greater that complexity, the stronger the incentive to manage to those rules and to tick the boxes. One of the incentive costs of having a very detailed and complex rule book is that you cannot be seen to override it with your own judgment. That was the case in the pre-crisis period: the temptation was to

push this down to low levels within the regulatory authorities and have inexperienced individuals look at small, bite-sized chunks of the balance sheet and hope to make sense of whether the right thing was done, and missing the big-picture risks, be it having the wrong business model or just taking on too much risk in total. I think that one regulatory incentive benefit would be to move towards a somewhat less complex rule book than we have had, so that regulators are managing the risk and not managing to the rule book.

**Q639 The Lord Bishop of Durham:** This is your Jackson Hole lecture? The ten commandments approach to life.

*Andy Haldane:* It is in the same spirit. You see it not just in finance. A doctor might behave very defensively if they are fearful of litigation or not abiding by the rules, and the same is true for the financial regulator. The way to have them act less defensively and in a way that protects the system rather than themselves is sometimes to give them more discretion and fewer rules to play with in the first place.

**Q640 Chair:** So regulators are not always disinterested guides; they can also be subject to the moral hazard involved in regulation, and can find themselves caught up, wanting a system of box-ticking because it gives them comfort as much as the regulated community? Is that what you are saying?

*Andy Haldane:* I am. Absolutely so. That risk is very real. It is human beings doing this, after all.

**Q641 Chair:** Is that what we've been having with the FSA for all these years?

*Andy Haldane:* It is not just the FSA. It is generic to regulation, and not just financial regulation, that if you give people a dense rulebook, the one thing you need to do is apply the rules. The behaviours then will be to manage the rules rather than manage the risk.

**Q642 Lord McFall of Alcluith:** If I could add to that question, to what extent are the failings of banking standards we have seen attributable to perverse incentives in regulation? Regulators are being paid twice what civil servants in the Treasury are paid—to get good regulators—but are probably being paid six to 10 times less than people in the industry are being paid. When they come to make decisions, there are all these incentives, which can militate against them. How do we get a level playing field?

*Andy Haldane:* It would be tremendously difficult to entirely level the playing field. It struck me that what you want from your regulators is a strong public policy ethos. It is no use having a regulatory community who are basically using the regulator as a temporary shelter from the private sector storm before returning to industry. Any revolving door between regulated and regulator is a sign that we have got something quite wrong. I do not think a regulator can or should compete with the private sector on the salary front. If you attempt to do that, I think you suck in the lowest quality people from the private sector; you get those for whom the lower salaries might be acceptable.

**Q643 Lord McFall of Alcluith:** What we have seen in the past 18 months is a lot of the senior executives in the FSA departing for the private sector, so the concept of regulatory capture is still to be examined thoroughly.

**Andy Haldane:** Yes, it is. Very interestingly, of course, those people are particularly valuable because they have a lot of human capital tied up in the very complexity of the project. It is regrettable that those people with experience cannot be held within the regulator. It is a real problem, Lord McFall. I hope that bringing supervision into the Bank of England will broaden the base of human resources—human capital—that can be deployed in line supervising banks. On average that makes for somewhat more experienced supervision of firms than we have had over the last 10 to 15 years. That is the hope.

**Q644 Lord McFall of Alcluith:** I was interested in your Occupy Economics speech. Relative to the questions earlier today in terms of a payments framework network and full account portability, would you consider a payments network, something like the national grid or water or electricity, which would both help competition, and assist in times of crisis, because it would bring instant change?

**Andy Haldane:** I think that would be a real step in the right direction, for reasons, as you say, both of competition and of resilience. The existing payments network has proven pretty resilient, in the main; it has not been a casualty of the crisis, and for that we should count ourselves extremely grateful. What it has not done, I think, is push out the boundary much on the competitive proposition. That is where I think the network idea—the equivalent of the electricity grid or the railway network—could help deliver the twin benefits of preserving resilience, which is crucial, and engendering a bit more competition.

**Q645 Lord McFall of Alcluith:** Last week, I got a letter from my car manufacturer, which said, “Nissan has identified a potential issue in the fuel sender and in an extreme case the connection to the fuel pipe may split and lead to a minor fuel seepage on to the ground underneath the vehicle. Please could you contact your Nissan dealer as soon as possible to make an appointment. The rework will only take around one hour to complete and will of course be free of charge.” We have never experienced anything like that in the financial services industry. Do you think, therefore, that there is a need for the financial services industry to copy manufacturers such as Nissan and introduce a statutory duty of care for their customers?

**Andy Haldane:** On the last part of your question, Lord McFall, I have not fully thought through the statutory duty of care, but everything you said leading up to the last part, I completely agree with. I have looked a little at global supply chains for manufacturers and for retail and wholesale products—non-financial products—and they have gone through a complete transformation over the last 20 or 30 years, in a way that enables that sort of information to be available in real time, explaining not just what has happened, but what will be done to remedy the situation. This comes back to the point I made earlier about information technology: banking could really haul itself up by its bootstraps by employing state of the art technology to radically improve the customer proposition. It has been a laggard on this front, for reasons I find it difficult to explain. Actually, I do not find it difficult to explain. The reason was that the good times were rolling; as long as the revenues were rolling in, there was no need to act on the cost base. Now the revenues have stopped rolling, we are seeing the early signs of banks transforming their IT to bear down on their costs, which could be the makings of something good.

**Q646 Lord McFall of Alcluith:** I am thinking of issues such as parliamentary inquiries into split capital investment trusts. We have PPI, where £18 billion has now been set aside. We have interest rate swaps, which people say could be even more. We have to stop this car crash at some time and assist people. Could you look at that aspect further in terms of a

statutory duty of care, because we would value your comments? Allied to increased competition, would it make banks less likely to mis-sell products to customers? That is the really the question at the back of this.

*Andy Haldane:* Would it be okay if I took that away and thought about it? If I have further thoughts, I could send them round to the Committee, if that is okay.

**Q647 Lord McFall of Alcluith:** Sure. We would be delighted. The last question is on the issues of too big to manage and too complex to manage. The other day, I asked the chief executive of HSBC whether, in light of the civil and criminal proceedings in the US, HSBC was too big to manage, and he thought it was a thoughtful question. Do you have anything to add? Allied to the issue of too complex to manage, I saw in the *FT* today that Barclays cleared more than \$5 trillion of over-the-counter derivatives for its customers to address counterparty risk. When I asked the chief executive of Barclays whether the organisation was too complex to manage, he swerved the question. But these issues of too big to manage and too complex to manage are still on the agenda. What advice do you have for us in looking at those areas?

*Andy Haldane:* As you say, Lord McFall, evidence over the last six months has been quite telling in this respect, because some of the firms that we viewed as having had a good crisis, and as being very effective risk managers, found themselves tripping up over some of the problems you mention. Let me add one more to your list—the problems that J.P. Morgan faced with its whale issues. If anyone was viewed as having emerged successful from this crisis globally, it probably was J.P. Morgan; its risk management was seen as being best of breed, yet we had the London whale incident, which suggests that a key part of that business was not being managed or overseen from a risk perspective in an effective way. The question you pose is very real. The evidence base is not encouraging about whether the biggest banks in the world can indeed manage themselves across the board.

**Q648 Lord McFall of Alcluith:** In one of your speeches, which I quoted the other day, you mentioned CDOs. It was fascinating in that it would need seven years of speed reading to understand the concept. This is a simple, perhaps naive, question: should the regulator in future only regulate products that they understand? Is that too simple and naive a question?

*Andy Haldane:* I don't think it is at all a naive question. Fortunately, it is more a question for the conduct authority than for me.

**Q649 Lord McFall of Alcluith:** But it comes back to you if they don't understand it.

*Andy Haldane:* I think that is fair. Should there be a higher threshold when determining a legitimate product than there was in the pre-crisis period? Absolutely, I think. As we are seeing now, a number of products were manufactured that were fundamentally ill-suited and misunderstood by those buying them. Caveat emptor gets you so far, but only so far. The regulator does have a role to play in stepping in if something is gratuitously mispriced, or if it is implausible to think that anyone could understand it.

**Chair:** We have been running for nearly a couple of hours, which is a reflection of the interest in your replies. There are a couple more colleagues who want to come in: Pat McFadden and Susan Kramer. I am sorry if we are overrunning a little.

**Q650 Mr McFadden:** I won't take long but I want to pick up on some of the things that other people have asked you, to explore them a bit further. You talked in one of your speeches about "financial reformation". The questions we have gone through today touched on

different elements or building blocks of that. We have had the questions of structure, capital, resolution or bail-in or who bears the risk in the event of failure. If you stand back and look at the building blocks of that financial reformation, is there anything that strikes you as missing? Is there something that has not been picked up on that would be an important element in future, which all the regulators and policymakers who have been burrowing into this in the last couple of years have missed?

*Andy Haldane:* That is a very good question—a very good test. I don't know that I have an instantly good answer. Is that one I could take away, and think about it and research it? Maybe if I have further thoughts I could send them around the Committee. Would that be okay?

**Chair:** That would be helpful.

**Q651 Mr McFadden:** It would be really helpful, because we have—or maybe we are—an opportunity to identify such a missing piece, if it exists. Let me take the same thing and put it in a slightly different way—not to ask the same question again. In all these different building blocks of the financial reformation, if that is what it is, are you worried that we are all fighting the last war, and that we are creating the perfect system to prevent the last crisis?

*Andy Haldane:* I think there is always some risk of that. Your points are well made. The things that give me some hope on that front are, however, some of the more durable structural reforms. Success feels and looks like a change in attitudes to risk-taking. For me, the single most important thing that can be done to change attitudes to risk-taking and attitudes towards customers ahead of time would be to change the structure. I am hopeful that structural measures, because they reshape incentives, would be less susceptible to the problem of fighting the last war, but whether the regulatory rules we are devising are susceptible to that critique—that is a much more potent criticism.

**Q652 Mr McFadden:** Let me explore a couple of bits of that. In the earlier discussion with Lord Lawson, you said on the structural point that the key thing—I am paraphrasing—was a full and faithful implementation of Vickers, with separation of governance, treasury functions, remuneration structures and so on. You then talked about the possibility of the sword of full separation hanging over the implementation of Vickers, as well as all those things, and some capacity to make a judgment about full implementation some way down the road.

Lord Lawson identified the danger that that judgment might take an otherwise avoidable financial problem. Can I ask you a little bit more? In the event of the sword of full separation—the sword of the full Monty, if you want—hanging over the banking system, how would full implementation be judged, who would judge it and on what time scale, so that the sword was real, rather than being perceived by the banks as something they have fought off?

*Andy Haldane:* Again, it is a very good question. Can I be slightly presumptuous in my answer?

**Q653 Chair:** You are going to tell us we should do it.

*Andy Haldane:* Yes.

**Q654 Chair:** I thought that was coming. Can you develop the answer a little? What kind of support might Parliament need in order to make a judgment of that type? It is an issue, as you know, that the Treasury Committee has also begun to examine.

**Andy Haldane:** I think, as Mr McFadden said, that there will be real benefit in having some success criteria for Vickers. Put differently, we need to know what failure looks like. Let us say we took very seriously some of the concerns that Paul Volcker expressed to this commission about loopholes, wriggling and permeability. Those loophole risks ought to be definable, maybe even measurable, in a set of up-front criteria, so that we knew more about whether the ring fence was being breached or worked around. Having those success or failure criteria defined in advance would also help make credible the sword of Damocles issue that you mentioned earlier.

**Q655 Lord Lawson:** Wouldn't it be the PRA's responsibility too?

**Andy Haldane:** Yes. Certainly, under the legislation, there would be an obligation on the PRA to police the ring fence.

**Q656 Mr McFadden:** I want to take you back to what you said about success being a different attitude toward risk, and that would be very important for success. One thing that angers the public is the lack of perceived personal responsibility among senior executives of banks for their stewardship of institutions that when they went belly-up, caused huge damage to the economy. No senior bankers have gone to prison. The chairmen and chief executives of most UK banks have changed since the crisis; some have lost their jobs, although the severance terms have been pretty generous by most people's judgment. What could be done on the issue of personal responsibility for those in senior positions charged with stewardship of banks to inculcate a greater sense of responsibility and perhaps a more responsible attitude to risk than in the past?

**Andy Haldane:** Without having remotely a complete answer to your question, I do think what we discussed earlier, on the compensation side, might make a difference—the capacity not just to chop off the head of an organisation when it goes wrong, which has happened, but also to claw back the accumulated bonuses or variable compensation of that individual. That would act as something of a financial disincentive to people seeking to rent-seek or risk-take, or more generally get rich quick. So I do think changing the structure of compensation would move us in the right direction on that front. I haven't thought sufficiently about personal liability and how that sort of incentive works out. I think even with financial incentives a lot more could be done than has been done.

**Q657 Mr McFadden:** We have had written evidence from Don Brash, the ex-governor of the Reserve Bank of New Zealand. This is slightly related to your simplicity and complexity argument. He said that instead of stipulating what risk control systems banks should have, directors there are required to attest personally that the bank has risk control systems appropriate to the nature of the operations. Do you see an advantage—I am not talking about the strict legal liability argument—in placing directors more personally up-front in what they have to attest to? It is fundamentally unsatisfactory that the sanction is that after the bank goes belly-up the chief executive loses his or her job. That is deeply unsatisfactory, from the public's point of view.

**Andy Haldane:** I completely agree. I think that is completely unsatisfactory. I am not close enough to the specifics of the New Zealand measures that you mentioned. I can see that they, too, would go in the right direction. Whether they would be decisive in deciding to carry out that merger or to put on that bet I am not sure. I suppose if you pick up a slight hint of scepticism in my voice it is because I would be slightly sceptical that that would be the decisive factor.

**Q658 Mr McFadden:** It might not mean anything to make them sign that.

*Andy Haldane:* Lots of bits of paper were signed pre-crisis.

**Q659 Chair:** Back to the question that you put to us: who should be holding this Damoclean sword over the banks? Parliament would need to rely on advice and support from regulators—a huge amount—in order to form a coherent view, a substantive view. That in turn requires that there must be some effective internal challenge within regulators, within the decision-making structure of regulators, on which we could draw. In other words, they need to improve their own corporate governance. Do you recognise the connection between the point you have passed us back today, and the points that have been made repeatedly by the Treasury Committee, that we need to improve corporate governance in the Bank of England, given the increased powers that will be granted to them?

*Andy Haldane:* The Bank is undergoing a huge transformation, as you know—possibly the biggest in its 318-year history; and personally I fully accept the point that we have to transform ourselves, including our governance and external accountability, to meet those extra responsibilities. You have thought much more than me, Mr Chairman, about the specifics of that, but the general point is fully accepted, and I certainly would strongly endorse the need for us to push out the boundaries of what we have done to an even greater extent.

**Q660 Chair:** Here we are, discussing how to improve non-executive challenge of executive decisions in banks. The same is true for regulators, is it not?

*Andy Haldane:* I completely accept that.

**Q661 Baroness Kramer:** I was just going to congratulate you on answering that question without wrecking your career at the same time. I suspect we will come back to that on a future occasion.

I know it is very late, but may I bring up a topic that has not been mentioned so far? Part of our remit is obviously to look ahead as well as back, so could I ask you about clearing houses? I think that we all accept that something has to be done—Lehman Brothers demonstrated that—and it is recognised that a major step is happening with the transfer of anything but the most customised derivatives on to CCPs for clearance. On the design of clearing houses or CCPs, in every article that I read of yours, every weakness that was raised would seem to apply to the CCPs, magnified. In terms of highly leveraged organisations, there is not enough collateral in the entire world—or quality collateral—to back up the open contracts that CCPs will hold, even if it would be possible within the economy to raise margins above a reasonably modest level.

The shareholders have very limited liability; it is limited to their participation in the default funds and into whatever is a pre-agreed loss allocation. Liquidity is a real issue, as most of the contracts are going to be in euros or dollars, and the Bank of England is capable of printing only sterling. I could almost keep going on with all these. There is talk about being too big to fail, and then you add the fact that the resolution process essentially relies on stuffing the open contracts to surviving CCPs, all of which are likely to have very similar ownership to the one that just went down, and they are likely to run for the hills if they see it coming, since it is a Lloyds/HBOS solution. How serious is the risk that we are looking at here, and what more do we need to do while we are in the process of dealing with legislation to try and make sure that we are not just ignoring the next major crisis?

**Andy Haldane:** The issues that you raise are absolutely huge. To go back to Mr McFadden's earlier point, in terms of not the last war, but the next one, many people are fearful that the next crisis may be in the infrastructure and, particularly, in the central counterparty space. For all the reasons you say, these will be entities that are too big to fail, on steroids. They do not have a tradition of holding large amounts of capital. That being the case—

**Q662 Baroness Kramer:** Zero is the normal number, is it not?

**Andy Haldane:** It is often a sliver more than zero, but it is a very small number, relative to the scale of their balance sheet, as you know, which begs the question: who then bears the loss? Who bears the risk if something were to go wrong, and in particular, if a member of the clearing house were to default? That is why we have been working—as I think you know, and legislation is passing through Parliament—to require that these entities have some rules of the game for dividing up losses in the event that one of their clearing members goes bust. This is the equivalent of resolution plans for banks, as applied to central counterparties. That is absolutely crucial.

CCPs are different from banks in one crucial respect. They are no more and no less than a set of rules between participating members. They almost have no independent identity, actually. They are a way of divvying up risk between the clearing members. That means that when the risks go wrong, that risk needs to flow back to members, and these rules are about making it clear *ex ante* how that risk will flow back. That takes us a long way forward from where we have been. It leans against the too-big-to-fail issue, without resolving it completely.

You mentioned liquidity. We also need to go through a transformation on the liquidity side in order to rethink when and if a central counterparty could hit liquidity problems and, if so, how best to deal with them. Generally speaking, all the points you raised are right on the money. We have many of them in our line of sight and we are trying to fix them. Will there be some unintended consequences? Almost inevitably. We need to keep on flexing the framework to meet the risks as and when they arise. I hope that we can do that. As of next year, that responsibility in the UK will fall to me, so I have quite a strong vested interest in this working well, and I am grateful for your articulation of what the problems might be down the line.

**Q663 Baroness Kramer:** It would be helpful as we start to move towards next year if we could have your thoughts on how to make the system more secure. You talked about loss allocation, for example, but it is very clear from the legislation going through Parliament that assurances have been given to members of the various clearing houses that there will be no loss allocation above and beyond that pre-agreed within the rules, which is likely to deal with only a small portion of whatever the loss will be. The taxpayer consequence could be very significant in all this, and it does not seem to be a particularly well articulated problem.

I would be grateful if we could get more information, as I suspect would the rest of the Committee, but I will limit myself to that on this question, because we are tight for time.

I want to ask two more quickies. You and others have used words like “human beings”. That is obviously at the heart of the system, but the kinds of remedies that have been talked about today have largely been structural or regulatory. A number of people who have given us evidence have talked about the importance of changing the personal ethics and values of individual bankers throughout the system. Professor Richard Roberts talked about the demise of the Institute of Bankers examinations as being the beginning of the end. The BBA proposed that an essential part of reform should be a kind of professional institute from which

people can be struck off, perhaps in the way that the BMA strikes people off. Is that a “nice to have”, or is that kind of element an essential part of the framework? It is not something that I have seen many people discuss particularly, and I cannot work out whether it is fringe or whether it is core.

**Andy Haldane:** I don’t know either. It would very much go with the grain and would usefully supplement all the things that we have discussed this morning, which would be corporate governance structure, compensation, competition, accounting and regulatory rules. I think that it goes with the grain of standards. It would be useful. I do not think that it would be decisive in changing the culture issue that we have been discussing. It would be a useful supplement to it.

Some of the work that Susan Rice at Lloyds has been doing in Scotland is very positive in that direction, not least in helping people entering banking—there are still many of them—to feel good about their profession. They all want to effect some change, too, and giving them some standards to adhere to could only help in restoring pride in what ought to be a profession of which we are proud.

**Q664 Baroness Kramer:** This is almost like the summary question. This is not our first financial crisis. It may have been on an extraordinary scale, given the way the world is today, but we have seen financial crisis followed by financial crisis over the years. Every time, all the key players—whether the banking industry, the regulators or the central bankers—say, “We have taken that on board. We understand what happened. It will not be repeated. We are going to recognise the risk,” and then, blow me, we turn round and are back into another financial crisis. Can you give us some sense of why it is so difficult for this particular industry to take on board the lessons of history?

**Andy Haldane:** That is a big question, and I do not think that I have a complete answer to it, Baroness Kramer. What I do think is that if you put end to end the programme of change that is already working its way through the pipe and that which we have been discussing this morning, it would, in combination—at least on my reading of history—be the most radical set of financial reforms in this country and probably elsewhere, certainly since the great depression and possibly before that. That gives me some hope that it will put us on a more even keel for at least the next decade or two. We will never rid ourselves of crises—that much is clear. However, we can do a much better job of lowering some of the collateral cost—the social cost of this type of crisis. I am confident that we can do a much, much better job on that than we have.

**Baroness Kramer:** A war to end all wars.

**Chair:** We have been running for almost the whole morning and I am going to draw the sitting to a close, which I am sure you will be relieved about. It has really been worth it. You have given tremendous clear and frank evidence in an area where clarity and frankness are sometimes in short supply. We are very grateful and look forward very much to a bit more of the same in late November.