BANK OF ENGLAND

Speech

Towards a new architecture for payment arrangements

Speech given by

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At the BAFT-IFSA 2012 Global Annual Meeting – Europe, London

24 January 2012

I would like to thank Emma Carter, Sam Leighton, Lisa Newman and Hannah Reynolds for their contributions and am grateful for helpful comments from other colleagues.

It is a pleasure to participate in this annual gathering of global transaction bankers, not least because this is the first time that this prestigious event has been held outside the United States. Although transaction banking covers a broad range of functions, I will focus my remarks on just one aspect: payment operations.

In the payments arena, the current speed of technological change has opened up great scope for innovation. It offers an ever widening range of payment methods to consumers, including contactless cards and mobile payments and provides for increasingly global cash management services for large corporates. I am sure the opportunities this creates will feature in your deliberations, at this meeting and more generally.

A central bank's interest is somewhat different, however, from that of a market participant, focusing on the integrity of payment operations. I want to discuss how the financial crisis has influenced the perspective of financial stability policy makers, at least those at the Bank of England, towards those operations.

The context is not that the crisis revealed weaknesses either in transaction banking generally, or specifically in payment operations. Indeed viewed from that perspective, they had a relatively good crisis. The value of low risk, resilient, business lines is thrown into relief for both firms and public authorities when an over-leveraged system falls over.

But the crisis has clearly had a profound impact on the public authorities' attitudes towards the financial system. Much of the resulting reform agenda has been focussed on de-risking banks' balance sheets by building capital buffers, increasing liquidity and lowering leverage, with the aim of reducing the likelihood of firms getting into financial difficulty. These changes are unlikely to have much impact payment operations themselves. But they may have more significant implications for other aspects of transactions banking. The potential and, I understand, much debated impact on trade credit from the new liquidity regulations and leverage rules is a good example of this.

A second strand of work has focussed on increasing the resilience of the financial system in bad states of the world, when in spite of the planned stronger buffers, either one or more firms gets into difficulty and is seeking to recover business-as-usual stability or a firm fails and needs to be resolved. This work programme has much greater potential to influence directly the attitude of public authorities to payment operations.

The starting point is in many ways a good one. For the formal schemes which facilitate the final settlement of payments there are established and clearly understood prudential principles, codified in international standards[1] which most major payment systems comply with. To draw out a few of these principles, key payment systems typically settle in central bank money, with settlement risk eliminated in high value systems through real-time gross settlement.

[1] Most notably those set out by CPSS-IOSCO, BIS Committee on Payment and Settlement Systems http://www.bis.org/cpss/index.htm, and the International Organization of Securities Commissions, http://www.iosco.org/

These rules generally work well, limiting the scope for shocks to be transmitted within the formal schemes. So, although day-to-day glitches sometimes occur in payment systems they rarely cause sustained problems for individual banks, nor do they generally have a systemic impact on the wider financial system. To take the example of CHAPS, which acts as the UK's core high-value real time gross settlement system, in 2011 there were over 50 member outages, during which individual member banks were either unable to send or to receive payments for an average of just over an hour. But none of these incidents had more than a transitory effect on the firms involved. And crucially during the financial crisis, the core payment systems worked well – here and elsewhere - and did not act to amplify shocks. Don't misunderstand me, significant risks are managed everyday within the formal payment systems, my point is simply that these risks are now relatively well understood and mitigated which I think is why payment systems themselves do not appear prominently as part of the great financial reform agenda.

Indeed, putting to one side concerns about consumer-facing issues, the key financial stability priority in relation to payment systems is the perhaps more mundane, but still difficult challenge of maintaining a largely good situation and guarding against complacency. That includes fixing the specific shortfalls which exist in current systems; ensuring sufficient investment and senior engagement in the payment operations at banks and infrastructure operators to maintain operational robustness and, finally, ensuring that members plan properly for change in their own operations and that they collectively have a decent strategy for handling the network implications of this period of significant technological innovation.

Nevertheless, the crisis is likely to encourage authorities to broaden their perspective when considering the safety of payment operations. This is likely to happen in two directions. First, authorities are likely to place more attention on the overall network of payment operations within a financial system, both those contained within the formal payment systems, and the bilateral network of relations which exist outside them. This is because it is the overall network of relations which will determine the scope of payment operations to amplify or dampen the system-wide effects of a shock around a financial system. Second, in the context of resolution specifically, authorities are likely to ask more questions about the internal organisation of firms' operations, particularly systemically important, large, complex firms and will look more closely at resilience in infrastructure companies.

The Payments Network

Turning first to the overall network, one key aspect is the pattern of direct and indirect participation in critical payment systems. Although as I just noted the key payment systems themselves typically abide by internationally agreed standards, those standards are largely drawn up with reference to risks to which payment systems and their direct members are directly exposed. But often, and this is true of the key UK payment systems, a significant number of banks connect to these payment schemes through one of a small number of correspondents. Hence the payments map comprises a central hub, the system and its direct members, with many spokes reflecting agency relationships between the direct and indirect participants.

The relative importance of the 'hub' and 'spokes' for a payments network is typically summarised through a 'tiering' statistic: the ratio of direct participants to all banks that make payments via the system. In highly tiered systems the 'spokes' are relatively important (and the statistic low in value), with the opposite true when most participants are direct members of the core scheme. In the agency relationships which make up the spokes, unlike the central hub, there are no agreed standards to manage payments flows. They are therefore assessed only in the context of firm-specific prudential regulation.[2]

Focussing again on CHAPS as an example, it is a real-time gross settlement system, so intra-day credit risk is eliminated between direct participants. But typically that is not true for relations between the direct members of CHAPS and their customers: unsecured credit is provided during the working day from one party to other, depending on whether the customer has received or made net payments, with positions cleared at the end of the day. This can increase the scope for a problem in one bank to affect others.

In the context of firm failure, where one party is large relative to another, these credit risks can become material enough to threaten the party on the other side of the relationship. There are many historic examples of correspondent bank failures bringing down their customers and some of the opposite occurring too.

Problems can also arise short of actual firm failure. In a period of stress, one party's attitude towards the credit risk inherent in the clearing relationship may change. For example, if a customer bank typically relies on an intra-day loan from its clearer to fund its payments and now suffers an adverse shock, the clearer may become more concerned about its credit risk. In extremis, it might choose to remove those clearing services altogether, but even in less extreme scenarios it may demand more protections in order to carry on clearing for the customer bank. Most obviously, the clearer could ask it to start collateralising its intra-day exposures. From the customer bank's perspective, the consequence would be to make an already bad situation worse, complicating its recovery situation. Precisely this type of dynamic played out for Lehman Brothers: in the weeks leading up to its bankruptcy, its correspondents from around the world called for a total of $16 billion of collateral and prefunding. This was a significant drain on Lehman's liquid asset pool, which had not been calibrated to take into account this possibility, providing false comfort and contributing materially to the speed of its demise.

Going forward, authorities are likely to pay more attention to the degree and riskiness of tiering when forming views on the robustness of the key payment systems they oversee. One of the draft new CPSS-IOSCO principles[3] for financial market infrastructures mandates that they should 'identify, understand and manage the risks arising from tiered payment relationships', internationalising a concept already incorporated in the Bank's own oversight principles.[4] This is a powerful principle, which I hope is adopted, as it shifts the risk

[2] For example, in January 2011, FSA set out guidance on "Good Practices for Settlement Bank management of potential risk exposures to customer banks, available at http://www.fsa.gov.uk/pubs/guidance/fg11_02.pdf
[3] http://www.bis.org/publ/cpss94.pdf
[4] XIII in the Bank's list of PSO Principles for Oversight
http://www.bankofengland.co.uk/financialstability/role/risk_reduction/payment_systems_oversight/principles_oversight.htm

assessment of payment systems from the 'hub' only to include the 'spokes' as well.

In some instances, such as the Hong Kong dollar, it is the norm for all financial institutions to participate directly in the key payment systems. This avoids the credit exposures, liquidity and operational dependencies associated with tiered structures. In other systems, where indirect participation is common, however, this principle can help frame a review of how the risks that may arise from indirect relationships are managed and mitigated. In some cases, where the risks warrant, the best solution might be for some indirect participants to become direct members.

In the UK, CHAPS clearly falls into this camp. Its membership is highly tiered and the Bank has long believed that a less-tiered system would be good for UK financial stability. To that end, in recent years the Bank has supported the decisions made by three banks to become new members. Nevertheless, there are still just 18 direct members, and around half of all payments made through CHAPS are on behalf of indirect participants. Over the last year or so, the Bank has intensified its efforts to change this situation.[5] My Oversight colleagues are working with the CHAPS board to introduce a rule into its own rule-book, consistent with the draft new international tiering principle, and we have been actively discussing the merits of direct membership with the largest indirect participants and their clearers over the past year. In principle, so long as our key risk concerns are addressed, and additional legal or operational risks are not introduced, we are open about the method through which new direct members join CHAPS.

Since we initiated this most recent round of discussions one large indirect participant has formally committed to join CHAPS, a second is moving towards a similar formal decision, and the remaining banks that we have spoken to are considering their position. If all the banks we have talked to in this round of discussions were to join CHAPS in due course, payment flows made by indirect participants would account for less than 40% of the total, making substantial inroads into our tiering problem.

Even if the degree of tiering in a given payments network does not change there are likely to be a number of ways through which the overall network could, in principle, be made more robust. Let me give four examples, all of which point in the direction of supporting better contingency planning than is generally now the case.

First, supervisors could encourage banks to factor in potential intra-day liquidity shocks when determining the size of their liquid asset buffers. In the UK, the FSA's recent reforms have substantively moved in this direction, requiring banks to manage their intra-day liquidity positions and any related risks so that they are able to meet their payment obligations on a timely basis under both normal and stressed conditions. And the

[5] http://www.bankofengland.co.uk/publications/speeches/2011/speech508.pdf

international regulatory community has indicated that it is currently reviewing if and how intraday liquidity risk should be addressed in the context of the Basel III reforms.[6]

Second, and here the thinking is at a much earlier stage, there may be a case for requiring contracts between direct and indirect payment scheme participants to make explicit provisions for periods of stress, specifying for example the conditions in which additional collateral might be demanded or notice periods for the withdrawal of service so that firms can better understand and manage the risks inherent in their payment relationships. There could be a case for standardising any such clauses.

Third, the clients of correspondent banks could ensure that they have back-up arrangements to switch to in the event of their correspondent failing. That clearly applies to bank customers, and would involve being able to route payments quickly through an alternative payment systems provider. But in principle, the idea could apply to large corporate clients: there could be a case for them holding an account with a back-up bank, already set up with the necessary payments functionality, to enable them, for example, to continue paying staff in the event of the failure of their lead bank. My impression, based on some analysis undertaken by the Bank last summer is that contingency planning of this type does not figure highly, if at all, on the agenda of either the customer banks or corporate clients of the large payment banks in the UK. In contrast, some of the larger US banks responding to the operational challenges they faced in the aftermath of 9/11, appear to have developed their thinking in this area a little further. Over time, and in the context of other competing priorities, this may need to move higher up the agenda of other banks.

Finally, there may be scope to improve the rules by which the schemes themselves determine who can be a member. Clearly members of payment schemes have a mutual interest in each others' standing: they have a commitment to send payments to each other. And there must be circumstances in which following an adverse shock, a bank which is a member of scheme either falls below the required membership standard or, in a deferred net settlement system, needs to provide assurances to other scheme members through posting additional collateral.

The key is that the process for responding to such shocks is well-articulated in the scheme rules and sets out an orderly process for additional collateral posting and potential exit, so that the path for recovering from the shock is not unnecessarily complicated by payments considerations. The affected bank should be given time to recover whilst the payment scheme and its other members are protected from the increased risk that it brings to the system. In this context, it is important that scheme rules do not hard-wire in a mechanical relationship between credit rating downgrades and membership eligibility. Cliff-edges for payment system membership are no more supportive of stability than anywhere elsewhere in the financial system. Extrapolating again from UK experience, this may be area where some schemes can make improvements.

[6] See paragraph 31 of BCBS *Basel III: International framework for liquidity risk measurements, standards and monitoring*, December 2010 at http://www.bis.org/publ/bcbs188.pdf

Whatever the specific responses are in different countries, I think the direction of travel is clear: as enshrined in the draft new tiering principle, financial stability authorities are likely to take a broader view when considering the safety of their key payment networks, and that is likely to require some response by the participants in those networks – both the banks and the schemes themselves. Possible actions include broadening the direct membership of key schemes, better contingency planning and well-balanced rules of the game for dealing with adverse shocks. The aim should be reduce the scope for payment arrangements to amplify the problems caused by shocks elsewhere, reducing the likelihood of the type of problem that Lehmans experienced.

Organisation of a firm's internal payment infrastructure

The second area I mentioned in my introduction was the interaction between the way firms organise themselves and resolution. Internationally, the Financial Stability Board has been leading the work to establish a road-map to get to the point when large, complex and systemically important financial institutions (SIFIs) can be resolved in an orderly way. As part of this they have recently published a set of Key Attributes for effective resolution.[7] These include the preservation of vital economic functions and, unsurprisingly, continuity of payments provision is identified as one of those functions. The Board has also identified a wide range of organisational issues which could complicate resolution and where change, both within SIFIs and banks more broadly, may therefore be required to make resolution feasible. These include complexity in legal structure, intra-group transactions and booking practices, potential fragmentation of information systems or reliance on service providers.

I think a number of things flow from these findings for the payments world. First, it is unlikely that the internal organisation of payments will be unaffected as and when large firms address the organisational issues which the FSB has identified. Second, firm's 'Recovery and Resolution' plans will need to explain how a firm's payment services can be resolved, whether by preserving continuity or by winding down in an orderly fashion reinforcing the case for addressing some of the issues I identified earlier. And finally, resolution authorities will want to understand how customers will be able to continue making and receiving payments following a resolution. That could hinge on the Authorities' ability to transfer to a healthy third party, the firm's payment services, either whole or divided up, in the event of resolution and, as necessary, ensuring that the infrastructure of the failed bank could be used by a new owner to provide transactional services to the customers. The feasibility of achieving this outcome would depend on the how bank accounts are organised and referenced within a bank's systems and the way in which they connect into the payments infrastructure. In the case of the UK at least, there are some difficult issues to be worked through here.

[7] www.financialstabilityboard.org/publications/r_111104cc.pdf

Conclusions

My aim today was to give a perspective on some of the ways in which the financial crisis has influenced policy-makers' thinking which might be relevant for the transactions banking world. It is, I suspect, natural for a gathering like this to focus on the commercial opportunities offered by innovation in the payments space. But I think it would be advisable also to consider how the perspectives I have outlined above might shape the attitudes of financial stability authorities and so the regulatory context in which you operate when developing your medium-term planning.