

# Facilitating Consumer Payment Innovation through Changes in Clearing and Settlement

## Commentary

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Richard Mabbott

Good morning. My credentials for being able to comment on Bruce's paper are that I was the program director for the U.K. payments industry, overseeing the build and implementation of our immediate funds transfer system.

Straight off the bat, I would like to say what Bruce has envisioned in his paper is eminently doable. We actually built one of these things in 2006-07. It has been live since early 2008, nearly four years, and it has run 24/7 without incident during that period.

Bruce's thesis or his contention it requires regulatory intervention to make this sort of thing happen certainly parallels what happened in the U.K. I can say, having worked in the industry for many, many years, without regulatory intervention the U.K. would not have the Faster Payment Service it has today.

A brief history of how we got here. Our Chancellor of the Exchequer at the time, Gordon Brown, who many of you might know went on to become our Prime Minister, commissioned Don Cruickshank, who was at that time a regulator in our broadcast media, to look into banking. The Cruickshank report came out in 2000 titled "Competition in UK Banking: A Report to the Chancellor of the Exchequer."

In very broad terms, what Cruickshank concluded was the payments system in the U.K. was a cozy cartel. Witness to that was the fact the industry never innovated unless it was made to. What is worse, the regulator preferred a small number of mature, stable banks rather than a "long tail" of free-wheeling entrepreneurial and potentially risky banks to regulate. So Cruickshank concluded the regulator was also part of the problem rather than part of the solution.

Cruickshank wanted to set up an Office of Payment Control. We have a history of such "offices" in the U.K. set up by the government to regulate monopoly industries—Ofcom for the communications industry, Ofwat for the water industry,

etc.—and he wanted Ofpay. But in the end the Treasury decided to put the issue with the Office of Fair Trading (OFT), which is the competition authority within the U.K. They set up a payments systems task force, which they chaired, to oversee implementing the recommendations of the Cruickshank Report. One of the first things the OFT wanted was faster payments and settlement.

The payments systems task force was inclusive. It included the banks and other stakeholders in the payments industry but was very much led from the front by public policymakers.

In May 2005, the OFT announced an agreement had been reached to reduce clearing times on electronic payments between banks following telephone or Internet instructions from customers. So this is very much about electronically originated payments.

What the payments industry then had to do was to report back six months later—i.e., November 2005—and say how we proposed to meet their requirements. Two years after that, we had to have a new service live with mass market reach. It was no good having the concepts sorted out or a pilot implementation—it had to be mass market. That is a pretty stringent timetable for anybody looking at a major development. It is fair to say the industry would not have innovated had it not been for this mechanism. We would not be where we are today. We would still be talking about it.

In those six months from May 2005 to November 2005 the industry debated two basic models. There was the so-called “ELLE,” pronounced “Ellie,” early for late/late for early, which was the low-cost option based on ACH. The idea here was that if you got the instructions into your bank before midday on a working day, the money would get to the beneficiary by the end of that day. And, if you got the instructions to your bank after lunch on a working day, the money would get there before midday the next working day. This was basically faster batch processing.

As it happened, our ACH in the U.K.—we only have one because we are quite a small country, an organization called BACS—had just finished a technology refresh. And although our ACH ordinarily works on a three-day cycle, they had already designed in the capability for one-day transfers. So they were keen to capture this business.

The alternative system we called Near Real-Time. Make no mistake, there is nothing near about it, it is genuine real time, but we are coy about saying that in public in case the odd bank goes down at 2 a.m. to do a system upgrade or whatever. The system runs 24/7. It is genuinely real time in the center. There are also technical reasons why the odd payment might get shunted-off onto a siding so that it does not happen in real time. Hence the formal position is “near real time.”

Typically, what this means is the payer knows their payment was sent and it was either successful (i.e. they are told the payment has been made) or, if it was

unsuccessful, they are told the reason why it was rejected. They can then get in touch with their counterparty, find out what went wrong, and send it again. This is 24/7, where ELLE was very much working days only.

It is worth saying at this point, we have no history in the U.K. of public-sector involvement in the payments system infrastructure. They regulate it but they do not implement it. Therefore the choice between ELLE and Near Real-Time was down to the private sector. We had to make a decision of: “Are we going to do the minimum we can get away with that the regulator says we have to do” or “are we going to look to developing a new infrastructure for the future?”

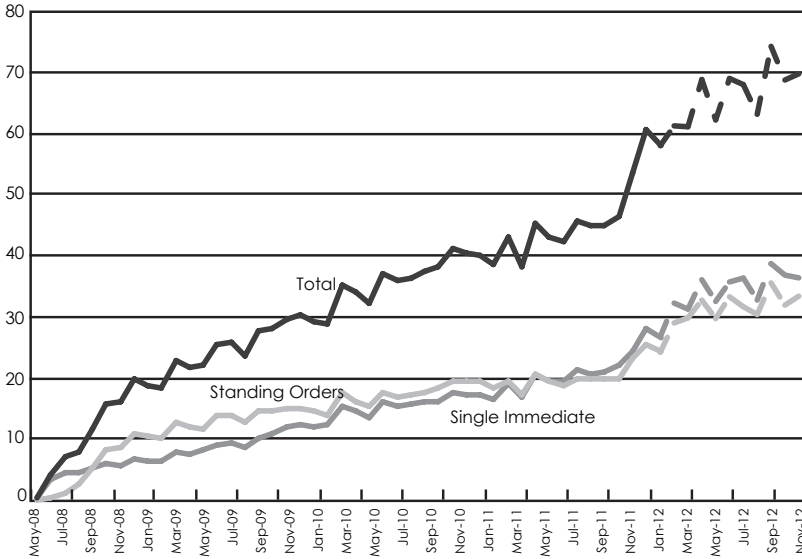
It will not surprise you the conservative element wanted the lowest cost option and the more visionary went for the new infrastructure. I am here today because we went for the latter.

Since going live on May 27, 2008, to the end of February of this year, in round numbers we have processed 1.5 billion transactions—in dollar terms to a value of almost \$1 trillion. We have operated 24/7 since we switched on, and we have not had any major incidents. The largest peak cycle we have had was over the holiday period this year. From the close of business on Friday, Dec. 30, through to the morning of Tuesday, Jan. 3, we processed 11.7 million payments to a value of \$6.8 billion. Most of those payments were on the return to work on Tuesday morning, stemming largely from the annual peak in Standing orders at the start of January.

Chart 1 will give you some idea of growth in the system. Of the two lines at the bottom, which are very similar, the darker one of the two is what we call “single immediate payments.” These are spontaneous payments made by customers paying other customers. That is really what immediate funds transfer is all about. The other line, which all but mirrors it, is “standing orders.” These are pre-mandated, routine payments paid on a regular basis. One of the things our regulators said to us after they obtained our commitment to build Faster Payments was “Would we mind doing something about removing float on standing orders?” The easiest way to do that, if you have a real-time engine, is to put your standing orders over the real-time engine, which is what we did. In Chart 1, the top line is the total number of Faster Payments (i.e. predominantly the sum of the other two lines plus a small number of other extraneous payments types). This shows you the real growth rate. You will see that year-on-year there has been significant growth. The dotted line at the end is our projection for 2012 where we are predicting continued growth at an increased rate rather than any drop-off. In terms of “Do customers want this?” “Do customers like it?” The growth figures speak for themselves.

It is also worth mentioning pricing in the U.K. For consumers who are personal customers, if you keep your checking account in credit then banking is free. You do not pay a transaction fee on payments that go through the ACH. If you want to make a CHAPS payment, i.e. a real-time gross settlement payment, then it is liable to cost you quite a lot of money; on the order of £20 to £30.

Chart 1  
**Monthly Volumes (millions) for  
 Faster Payments 2008-2012**



When we looked to pricing Faster Payments, because the regulator said we had to develop such a system there really wasn't much work done on an industry business case as to whether Faster Payments costed-in or not; it was all cost.

We negotiated with our supplier a cost-plus contract for a term in excess of five years to run the system so we knew what it was going to cost to run it. What the commercial banks had hoped was that Faster Payments was going to be a premium service for customers. If personal customers wanted to make a Faster Payment, i.e. faster than the three-day norm for payments made through the ACH, then they should be willing to pay a small price for that. Banks were thinking in terms of £1 to £2.50.

Now the regulator is not allowed to impose pricing. That is competitive within the U.K. and we in the center were not allowed to discuss pricing, because that is against the Competition Act. But talking to people at the time that is the sort of figure they were thinking of. The commercial banks saw a chance here. By launching Faster Payments, people would pay for that premium service and thereby make a contribution to the cost of free current account banking.

Unfortunately, what the commercial banks had not reckoned with was our building society sector, which is similar to your savings and loan sector, who promptly gave Faster Payments away to their customers. If one bank gives it away, they all have to give it away. Faster Payments are thus free to personal customers in

the U.K. Commercial customers typically pay something in the order of £2.50 to £5 for a Faster Payment, where otherwise they would be paying something like £20 or £30 for a CHAPS payment. Personal customers get them free and commercial customers are getting them about a hundredth of the price they would pay for a real-time gross settlement payment. So why wouldn't they use the system?

I would like to tell you about the tiering that is in Faster Payments. We built the system around members. We went live with 13 members. Basically, each member bank has to build a system to send Faster Payments (i.e. acting on payment instructions received from their customers) and a different system to receive Faster Payments (which makes a real-time response back to the paying bank before crediting the beneficiary customer with the funds).

Figure 1 from left-to-right shows sending institution to receiving institution, and from top-to-bottom comprises three tiers.

The top tier is member-to-member. As I said, we went live with 13 banks. This is a push-credit system and the money is settled at the Bank of England.

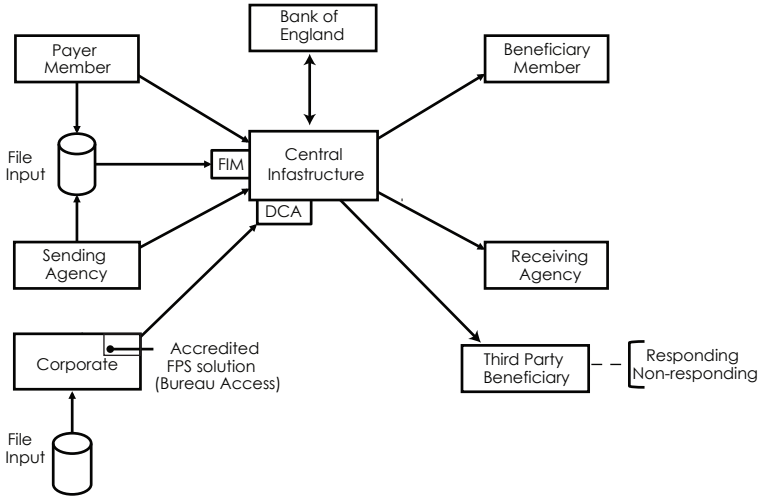
We have a second tier, which are agency banks. They effectively have to operate the same service as members, but they settle with their member bank rather than across the Bank of England. It is mandatory that you are there to receive payments 24/7 but it is the institution's own choice how long they are open for their customers to send. When we went live, 12 out of 13 members were open 24/7 for sending. One of them, because their Internet banking service was only open between 8 a.m. and 8 p.m., only permitted their customers to make Faster Payments during that period, but they have since rectified that. So Faster Payments are genuinely 24/7 for the banks that are participating in it. This is not business hours Monday through Friday.

We also have a third tier, which in the interests of time I will not go too far into, but it is basically for large corporate customers. The receiving side—the right-hand side of Figure 1—was primarily for credit card issuers and for large utilities receiving bill payments. An interesting thing about credit card issuers—I do not know if you have noticed—is that when you get your bill, the due date is almost always a Saturday. With Faster Payments you can pay them on a Saturday.

In tiering terms, banks can either be a member of Faster Payments, or they can be one of these directly connected agencies settling with a member rather than settling with the Bank of England. There is also a batch based file-input module for members and agency banks.

Outside of these three tiers, there are also indirect agency banks. These are banks that take a service either from a member or from a directly connected agency. They are not necessarily there 24/7, but they are available to the system to receive so that sending banks can route payments through to them. It was important that we had this additional routing mechanism because we needed mass market reach to satisfy the regulatory authorities at launch. They insisted that mass market was

Figure 1



anything over 95 percent of checking accounts. In the end, when launched with our 13 members we achieved in excess of 98 percent of checking accounts. The sort of people who are indirect agencies are correspondent banks in London, high net worth banks, boutique banks, that sort of thing—institutions you would not generally expect to be funding the payments infrastructure in the U.K. I will skip anymore about corporates and move quickly on to settlement.

The system uses deferred multilateral net settlement across accounts held by the members at the Bank of England, so that is exactly Bruce's model. The customer payment is end-to-end and in real time. You either know it happened or you receive a rejection but settlement for the successful payments is deferred until the end of the current settlement cycle when it is netted-off with all of the other Faster Payments made during that cycle.

We currently settle three times a working day. When the Bank of England first comes-up with the CHAPS system at 7:15 a.m., midday, and 3:45 p.m. before CHAPS closes down for the day. Settlement, however, is configurable and we can settle more than three times a day if required. Within reason we can do as many as we like.

The next settlement cycle begins before the previous cycle settles. So what we actually do at the end of a settlement cycle is draw a line and start the next settlement period, so there is continuous operation. There is no pause, no hiccup, and then behind the scenes we settle the net differences between the banks.

You will quickly realize, that means that the period from Friday at 3:45 p.m. to Monday at 7:15 a.m., is one long settlement cycle. We do not do much commercial business over weekends. It tends to be all personal customers and, therefore, there is not a huge risk in terms of the values outstanding.

The way the risk is controlled is through net sender caps on each of the members and a liquidity and loss-sharing agreement that all members put collateral into to protect against the loss of a member. If a member is unable to settle its obligations at one of these settlement cycles, then the failed member is blocked in the next cycle. The failed cycle is manually settled and the surviving members are recompensed after the event out of the collateral pledged by the failed member, which is held in trust by the Bank of England.

Faster Payments was designed and built during 2006 and 2007, so that was before the global financial crisis. We were all living in a very different world then. Many of us were perhaps a little complacent. It was designed and built to a very tight timescale set by the regulator and so we decided, prudently I think, to reuse existing concepts and proven components wherever practical. So the real-time switch is based on our ATM switch in the U.K. and the settlement process—the backend process—is based on some of our ACH processes.

What that meant was there really wasn't much choice over deferred multilateral net settlement, net sender caps and the liquidity and loss-sharing agreement. These were all components of the existing systems. That was the way we did things then. We talked about an RTGS settlement system but there was no appetite for the added complexity that would bring particularly the additional time it would take to deliver given the regulators' stringent timetable.

In terms of lessons learned, if we had our time over again (which you obviously still have) we would probably look much closer at the tiering diagram I put up. It is overly complex, it was not what we originally wanted; we wanted very low barriers to entry and that people were either members of the scheme or, if they did not want to be a member of the scheme, they were an indirect participant through a member. What we quickly found out, was if you were going to join the scheme it is fairly onerous running a 24/7 receiving system.

Those that wanted to avoid that cost were looking for a cheaper way of doing it and that is where some of the baggage from previous systems crept back in, which is where some of that tiering has come from.

We already have a commitment on the books to look at collateralizing or prefunding positions for second-tier participants before members make payments.