Securities settlement: A real-time vision.

A CSFI/DTCC Post-Trade Fellowship round-table discussion with Harry Leinonen (Bank of Finland and the Finnish Ministry of Finance), Tony Freeman (Omgeo) and Robert Barnes (UBS).

Held on Tuesday, December 13, 2011, from 12.30 to 14.15pm.
At the London Capital Club, 15 Abchurch Lane, London, EC4N 7BW.

The meeting was held to discuss the ideas of Harry Leinonen, adviser to the Finnish central bank and the Finnish Finance Ministry, for real time settlement of securities transactions. Joining the panel to comment on Harry’s ideas were Tony Freeman, Executive Director of Omgeo, a provider of middle office and post-trade processing services, and Robert Barnes, Head of Market Structures at UBS and CEO of UBS MTF who represented the user community.

Harry and the other speakers agreed that their initial comments should be on the record rather than according to the Chatham House rule. However, in line with previous DTCC-CSFI Post Trade Round table practice, the Chatham House rule applied to the resulting discussion.

Peter Norman, the Post-Trade fellow, said he had invited Harry to talk at a round table after learning of his research and ideas and reading material that he had presented earlier in the year to the EGMI group on market infrastructure reform organised by the European Commission. He hoped the meeting would unearth why, in an age of instant communications, settling securities transactions should take two, or more often three days rather than instantly.

Even though improvement is foreseen with the planned adoption of T+2 settlement in Europe, it was still difficult to understand why there was no real time settlement of securities, given that there were advances towards the adoption of real-time processing in the clearing space.

Harry Leinonen took the floor first to explain his vision. He was followed by Tony Freeman, who was invited to comment on how feasible Harry’s innovations might be from the viewpoint of a services supplier. Robert Barnes, who has actively promoted innovation in securities settlement in the EU, concluded the initial comments.

Given the technical nature of the subject, Harry agreed to the distribution of two documents to participants ahead of the meeting to help smooth the discussion. These can be accessed by clicking on the links at the end of this summary.

Harry said the issue of real time settlement had surfaced recently when discussing the planned EU regulation of central securities depositories (CSDs). Regulators always asked the same question: How could it be that in an age of instant communications it took so long to settle securities transactions? He then asked the group: who believed T+2 was just an expensive improvement on the status quo and who believed it was possible to move to T+0 real time settlement?

A scattering of hands indentified a minority of those present as believers in T+0. Harry then asked the group how they would feel if they went to an ATM - a hole in the wall machine - to be told that they could only have their money after three days.
ATMs in the United Kingdom handled 33 times more transactions in real time than did securities settlement providers using T + 3. Harry couldn’t see why large value payments related to securities settlement should be handled more slowly than petty cash. The technology was available. There was plenty of software for companies to buy. Real-time settlement was already in use in small markets such as Albania and in the much bigger domestic market of China.

Harry argued that the absence of modern real time settlement in the mature markets of Europe and the US was a result of vested interests.

The question was: how to replace current systems based on legacy paper and batch systems with more modern systems, conducted in real-time, that would enable trades to be settled at any time of day or night in much the same way that someone could buy a flight ticket on the Internet?

To change the structure he referred to the diagram on page 5 of his set of PowerPoint slides, which outlined an open, flat and lean future rather than processes grouped in non-interoperable silos.

To realise this vision, CSDs would focus on issuing services, notably: increasing and decreasing the amount of issued securities in the market; distributing interest and dividends, and providing corporate action services. CSDs would become competing organisations, with issuers able to move from one CSD to another.

Investors’ securities would be held in book-entry accounts by custodians, whose main task would be keeping the records of the securities owned by their customers. All custodians would have links to all CSDs. This would allow portability of accounts from one custodian to another, much as an e-mail account or a telephone account can be moved from one supplier to another.

The main structural difference to the present system would be the incorporation of the settling function in the exchanges, which would operate in real-time. The settlement would be done at the same time as the trade on highly efficient trading platforms so that trading of book-entry securities would become a computer-to-computer straight through processing (STP) service.

Harry said that opening up a flat world to users would entail making all processes interoperable by using the same standards. He acknowledged that there was a past history of failed projects aimed at straight through processing. Effective STP required reengineering, with common interoperable data and common keys and addresses.

- An essential requirement for STP was agreement on an International Custody Account Number or ICAN which would identify any asset in a manner similar to the IBAN identifier for bank accounts in the EU area.

- There needed also to be common structured identifiers for each transaction, which could be labelled the International Security Transaction Identifier or ISTI. This would allow transactions to be traced through the system much as UPS can trace its parcel shipments in real time.

- There would need to be reference codes for investors and custodians sending and receiving securities.

- In addition, Harry proposed a International Tax Payer Identifier (ITID) to allow automated taxation of investor assets and returns.
These were “Lego pieces” of software that could be put together to bring more efficiency and therefore more stability to the system.

Real-time settlement would lead to profound changes in the way the securities industry operated.

- It would make naked short-selling impossible because traders would have to possess the assets before they could trade. Harry argued that this would not adversely affect liquidity: because the trade and settlement of the trade would be instantaneous, the proceeds of each trade could be used immediately for the next trade.

- Custodians, however, would have to have sufficient intraday liquidity which could mean giving them better access to central bank money.

- Real time settlement would mean there was no need for CCPs to interpose themselves in securities transactions. This would simplify matters.

So what could prevent this new approach? According to Harry, the main objections came from the vested interests of middlemen who made money out of the present inefficient system.

Those who stood to benefit from a leaner, low-cost system were issuers and end investors.

Looking ahead, Harry said real time settlement could lead to a Single European Securities Area (SESA) in which the new kind of infrastructure would operate with common rules across borders. This would require legislation. It would be important for the authorities to be involved and create incentives to change. There would need to be a holistic plan. All this was feasible. But it would amount to a revolution. So to succeed, everybody – service providers, customers and authorities - would have to be signed up at the design phase and focused on the long term benefits.

At this point, someone asked why, if real time settlement was such a good idea, it had not been done already. The answer was that there was too much profit and revenue in the existing system and too little competition. Customers had no other alternative. They had to use what was in the market and that was very heavily regulated.

Someone else asked what made people think customers wanted the new approach.

The answer came in the form of a question: would anyone wanting to sell their shares object to having access to their money immediately?

Another questioner suggested that Harry’s system might be attractive for a proprietary trader dealing in a few shares, but how would an asset manager holding thousands of accounts cope with it? In reply, it was suggested that asset managers would have an easier life if the market operated on a 24/7 basis. They could trade just as ordinary people could buy flight tickets at any time over a weekend.

This prompted an objection that no one could buy a flight ticket at a reasonable price immediately before takeoff and that the proper comparison should be with buying flight tickets a week ahead for delivery on T+7 basis which was when the pilot said that the doors were shut and safety checks were in progress.
The discussion broadened out at this stage. Someone pointed to the very significant number of errors that took place between trade and settlement, which meant that the biggest issue in settlement was checking things after the trade had taken place. Another participant raised the question as to whether someone on the West Coast of the US would actually want to trade 24/7. At this point, Peter Norman invited Tony Freeman of Omgeo to make his points to the meeting.

Tony Freeman began by welcoming the opportunity to discuss settlement at a time when most of the discussion on post-trade issues tended to focus on clearing. Omgeo is a company deeply involved in settlement issues.

He began by noting that the settlement market is in Europe is fragmented and marked by a large differentiation among participants: for example, between investment banks and the buy-side. But it is important and its importance was highlighted by the EU’s forthcoming CSD regulation. Although settlement was not a cause or an amplifier of the crisis, it was sensible to have a co-ordinated European approach to settlement in Omgeo’s view.

He chose to address the topic by asking four questions. How did we get where we are? Why is change so difficult and painful and long-winded? What was there to learn from other industries? And what is possible?

Tony pointed out that Europe’s settlement systems have evolved. There was no coherent design to settlement of securities trades in contrast to some other markets, such as futures, which had more of a design concept from the beginning.

There were four stages of every trade that needed to be taken into account: the pre-trade segment; the order execution segment; the middle office; and the clearing and settlement layer. Because settlement in Europe was fragmented and lacking harmony, T2S was being introduced by the ECB as a public sector spur to harmonisation.

In discussions with officials, Freeman found that the most frequent question posed was why should settlement take so long? Why was there a nuclear arms race in the Front Office with very little being spent on the back office?

Politicians pointed to markets which had already implemented real time settlement or T+0. In the case of Saudi Arabia, the market was not a large market and it was feasible for the Saudis to have T+0. China was a different case where there was T+0. But in China, there was no cross-border trade and it was when trades crossed borders that T+0 broke down. In addition, the Chinese market was one where people did what they were told.

This prompted a question from the room as to whether there were any cross-border markets that settled on a T+0 basis. Another participant mentioned the Repo market, but suggested T+0 for Repos was possible only because the market comprised a small elite of participants. The Repo market’s practices were therefore not scalable.

Tony said the current situation reflected the power of inertia in markets. Existing practices such as T+3 and T+2 for the forex market were rooted in times past. T+2 for the FX market went back to the
time of telex machines when two days were needed to do trades and confirmations via telex between trading places that were furthest apart on the planet.

But the fact that foreign exchange settled on the T+2 basis constituted one of the biggest obstacles to adopting anything faster for settlement of equities and fixed income markets.

T+3 for equity and fixed income markets went back to the mid-1990s and was a further case of inertia. Meanwhile, the gap between the Front Office and back office spending was getting worse with high investment in high frequency trading being an issue of contention between politicians and markets.

So why, Tony asked, is change so slow?

Omgeo identified three drivers of change: crisis, economics, and regulation. The failure of the market and authorities to remove the Giovannini barriers over the past 10 years showed how difficult change was, even though everybody knew the issues and what was required to make the market work better. One problem with post-trade issues was a big disconnect between the end-user and the process: an investor in mutual funds had no real insight into what was happening post-trade and this led to opaque pricing structures. The recent financial crisis had also changed the situation, shifting the priority of the authorities from promoting competition to tackling risk. In the process, regulators had concluded that regulation was most effective way of changing the market.

So what was now possible? From a technological, legal or operational angle, virtually anything was possible, providing enough money was spent. But this raised the question of costs which was a big issue. It was very difficult to make a case for investment in post-trade technology at present.

At Omgeo, the company had concluded that the biggest barrier to change was behavioural. There was a lack of awareness of what was possible and a lack of analysis: people did not ask why current procedures existed; why we do things as we do. In the immediate future, T+2 in Europe is a done deal: it will be in the EU’s CSD regulation. But it took two years debate to get this far and the implementation date was another three years away. This was a further example of inertia.

A comment from the floor noted that there had been progress in dealing with corporate actions as part of the Giovannini programme. This was important because corporate action errors had been very expensive for custodians in the past. Another speaker said that it was wrong to blame the private sector for the lack of progress in removing the Giovannini barriers - rather the blame lay with the public sector.

There was confirmation that the EU had adopted T+2 for securities settlement to bring the market into line with the foreign exchange market. Someone commented that T+0 would require companies to change fundamentally the way they operated. It would mean having cash on hand to finance trades. This was how the Chinese market operated. But it was an unattractive business model.

In a further comment from the floor, someone asked whether the barrier to change could be a software problem. Another argued that it was a processing problem because the cost of changeover to real time settlement would probably outweigh the benefits for many participants.
Another difficulty was that of quantifying the reduction of risk that real time settlement would yield in order to assess whether it could be an effective business proposition. Someone pointed out that CLS in the forex market had taken out about 95% of risk. But it was very difficult to do a cost-benefit analysis on removing the remaining 5%.

At this point, Peter Norman invited Robert Barnes to comment. He first presented the “house” view of UBS and then his personal view.

Robert Barnes said UBS would not be opposed to real time settlement if it were feasible. It could support the objectives of ending naked short-selling; being able immediately to detect settlement errors; and reducing settlement and liquidity risks. But in the absence of any concrete proposals for real time settlement in the EU’s post-trade agenda, UBS’s view was that the market should first deliver the projects in the pipeline, such as T2S.

Offering a personal view, Robert said two conditions needed to be fulfilled before a compelling case could be made for real time settlement: i) a cost-benefit analysis that showed benefits for all participants – because it was clear that implementing Harry Leinonen’s vision would entail costs for all concerned, and ii) a positive critical mass of participants to introduce the new system all at the same time. The lengthy struggle to introduce competition in the trading space before MiFID showed how difficult it was to achieve critical mass.

He brought up the contrasting experiences of trading Russian securities in London and on Micex, a Russian stock exchange, to highlight the problems real time settlement posed for large scale institutional investors.

Russian depository receipts were among the most liquid securities traded in London, where settlement was on a T+3 basis, compared with Micex, where trading was subdued, despite a T+0 environment. T+0, which also existing in China and Saudi Arabia, provided a safe system for domestic retail investors which accounted for most activity on these markets. International institutional investors, by the time they had marshalled funds to trade on Micex and then settle, were effectively confronted with a four day financing cost. It was noteworthy that Russia, which is modernising its financial markets with UK help, would probably move to T+3 next year (and eventually T+2) instead of T+0, he added.

In Robert’s view, a better innovation for international players would be to aim for 24 hour trading with settlement in one location during the business day. This was the model adopted by the foreign exchange market, which settled in CLS. There were steps towards this among some derivatives markets outside the US and Europe. Thanks to the recent introduction of interoperability among equity CCPs, a similar model was emerging in European equity trading.

Robert suggested that the G20 should add 24 hour securities trading and settlement in one place to its Post Crisis agenda for reforming global financial markets. Such a structure would promote liquidity on order books, which is depressed post-Crisis. It would also have the advantage of enabling exchange traded funds, which paradoxically are traded over the counter outside the US, to move onto trading platforms and into infrastructures.

There was one area where Robert saw an opportunity for real time processing. This was in the mobilisation of collateral. There was a huge looming shortage of collateral needed for initial margins.
because of the G20 requirement to shift standardised OTC derivatives trades onto central clearing. Rather than strive for real time securities settlement, effort should be focused on devising a process that would lead to real-time recognition of the value of non-cash assets held in CSDs and ICSDs for collateral optimisation, he suggested.

In the discussion that followed, it was argued that most collateral needs would disappear in a real time environment. An investor would sell something from his or her portfolio which would settle instantly, enabling them to buy something else. It would be a change to a real-time portfolio management environment.

The point was made that this might be true of securities trading. But in the case of OTC derivatives, traders were dealing with values with an order of magnitude and multiples that were much greater.

Another speaker suggested that Harry's system would work in a securities-only world. But the financial markets didn't work like that. There was not a single financial market: There were multiple markets that were adjacent and fulfilling different functions. If there was real-time in securities, there would be knock-on effects and feedback effects in the adjacent markets such as OTC derivatives, exchange traded derivatives and foreign exchange, which would have to be solved.

Countering this, it was argued that derivatives from a technical point of view were just securities or currencies. They were balances that could be traded and there should be no problem from a software point of view in having real-time settlement.

It was pointed out from the floor that high frequency trading could only be done electronically and therefore it would be sensible to have all securities traded using a common language. This, someone added, was already how ATMs worked. There was no problem obtaining money from a hole in the wall anywhere in the world thanks to the common use of common standards.

In response, however, another person raised the issue of trade sizes and bank balance sheets. He cited the case of a huge trade going wrong and affecting the bank's balance sheet, implying that the risks of knock-on dangers would be greater in a real time environment.

The counterargument to this was that there would be fewer errors because real-time settlement was safer.

The question was raised as to whether it would be possible to adapt legacy systems to Harry's vision or whether everything would have to start from new. The best way of implementing T+0 would be to start from scratch. But it could also be done in parallel with existing systems, in the same way that e-mail was started from scratch in parallel to the Royal mail.

This prompted one participant to suggest that the project could go ahead even if the industry was ill equipped for T+0.

Somebody asked if real time settlement would have to be launched by a central bank which would then later float it off, much as the Bank of England established Crest in the 1990s and later sold it.

There was agreement that it would be good to have regulators involved in the operations. But it was suggested that central banks could be too risk averse or politically perfectionist to promote such a system. Instead legislation would be the best way of encouraging change.
It was asked whether the forthcoming EU CSD legislation would allow Harry’s vision to be implemented. The then prevailing version of the draft CSD regulation provided for T+2. But there were no incentives built into it to encourage T+0. According to one participant, these would be needed.

On the subject of incentives, someone raised the situation of the buy-side which still operated very much in a paper-based environment with fax machines rather than electronic processing. Here, planned EU regulations will require improvements to present systems (for example by penalising failed trades more heavily). However, a step-by-step approach would raise the cost of implementation compared with starting from scratch. Moreover, fund managers would be likely to pass costs on to their customers. It was noted that the financial sector had a poor record of engineering lower costs while rules prescribing “best execution” would not help.

There was some concern that Harry’s idea of legislation to promote T+0 could lead to restrictions. One participant argued that the key to success lay in aligning the project with commercial incentives in the way that the Bank of England was able to promote real-time gross settlement in payment systems at the beginning of this century.

Elsewhere, it was recalled that in the case of the Fix protocol, it was helpful to have a powerful market participant (Fidelity) behind the project.

There was some concern that failed trades or abnormal events could upset a real time system. Another concern related to the tariff structure that would be applied with real time settlement. There was a plea for a thorough cost-benefit analysis.

In response and in summing up, a forceful case was made for real time settlement: that it would yield operational efficiency, lower risk, produce more competition and should lead to lower costs. Effectively, there would be no counterparty risk. However these arguments fail to sway many around the room. At the end of the meeting, roughly the same number of people raised their hands in support of T+0 or real-time settlement as at the beginning.

i) **Future scenarios on the next generation of infrastructure for processing securities**

ii) **Future infrastructure developments in the securities industry?**
- SESA in the pipeline? (To download this powerpoint presentation, click on the link listed after ‘Further reading’ under the round-table heading).