The real solution to STP

Paul Pickup
Trading Technology

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Research for Summerson Goodacre

Summary

Trading Technology, a capital markets consultancy, proposes a solution to STP, which does not involve technology. The solution is simply to create holding accounts for the buy side that are used to settle transactions with the sell side, and then force the buy side to perform their own allocations internally.

This simple change to the markets would reap benefits to the entire securities industry running into billions of pounds and also remove the barriers to T+1 or even T+0.

Introduction

The issue of how to solve STP has been with the financial services world for the last 15 years, if not more, but even with the best brains in the world on the case, the problem still exists today. Paul Pickup argues that the real solution to STP is not in fact technology – possibly doing himself and several thousand others out of work. The solution lies with a combination of regulatory and organisational changes that would be easy to implement. However, like any changes in financial services, the changes would probably be met by stiff opposition.

The mythical STP

Straight Through Processing (STP) is the consultants and system integrators dream that has never turned into reality. With as many as 40% of transactions that flow through capital markets requiring human intervention, coupled with transaction volumes increasing tenfold in the last decade, whilst transaction costs are being squeezed to a minimum, STP is a real problem. This costs the industry a great deal of money - costs that are ultimately passed onto the investor. During the boom years, the banks and brokers were more interested in chasing new business than to actually re-architect their systems, during the bear run of the last few years they have wanted to re-order their system architecture, but budgets were not available. This is why very few organisations have really done anything substantial to tackle STP and why the problems are still with us today.

But where are the “breaks” in Capital Markets? In spite of all of the research that is available on STP, there is very little information on where the breaks occur in the process. However, the magazine STP benchmarks collects information on STP and shows very clearly that the majority of breaks occur in post trading and pre-settlement.

The answer seems to be in the combined areas of matching allocations especially in cross-border transactions.

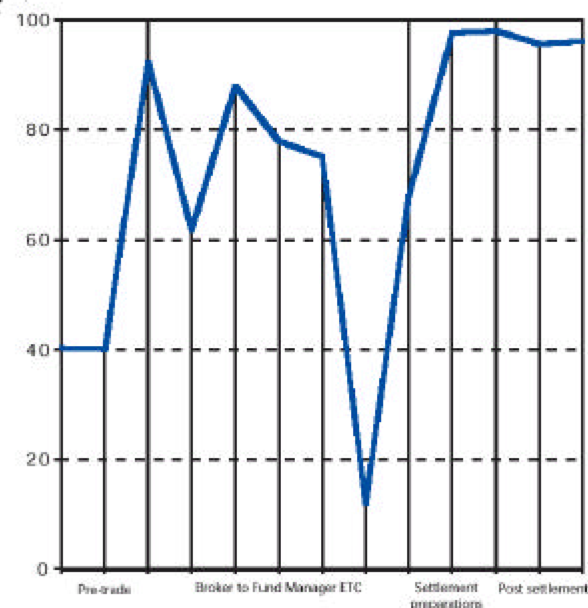

Figure 1: STP rates for cross-border equities by transaction activity

Most other analysis shows that the problems relate to static data, but again there is little information as to which static data causes problems. In speaking to operations managers within global brokers, it is "overwhelmingly" counterparty data.

The problem with allocations

The re-adjustment of funds generates sizeable orders (buy side), which are collated from all the firms' funds into a larger order. This is passed onto brokers to execute (sell side). In the manner of the markets, these executions may come back piecemeal and may at the end of the day be only half filled. The sell side has to process settlement within 3 days, but require instructions back from the buy side on what to do with half-filled orders. The buy side have to decide how to allocate the executions over the target funds. It may be desirable to have some of the funds filled first, or simply spread the half-filled order pro-rata over all of them, or any combination of algorithms. Either way it is the fund manager's choice. The tricky part is that the brokers need to know the exact counterparty codes for the target funds, and issue instructions to move stock or cash to those accounts direclty.

These instructions may come electronically, via the telephone, via FIX messages or still commonly via FAX. They are also frequently mistaken. Hence the manual intervention.

The same instructions are passed to the Fund Managers' custodian to move stock or cash. The custodians have similar problems in getting clear instructions from the fund managers, but at least deal with a smaller number of them.

Trading Technology was involved in an STP project for a global custodian. A previous consultancy had been in and mapped their business processes. The huge numbers of circles with lines going in between them were reminiscent of the surreal bubble sequence from the Yellow Submarine film rather than a rational business process. As a consultant, you know that whenever something is that complicated, there is something fundamentally wrong.

GSTPA failure and where now for VMUs?

It was the allocation issues that a consortium of market participants banded together to try and solve. This was called the Global Straight Through Processing Association, or GSTPA. Essentially it set about solving the problem of matching, especially allocation. Some $80M was poured into the GSTPA who built a central matching system called the Transaction Flow manager, or TFM.

The GSTPA folded after the TFM went live and attracted very little business, in spite of the wide body of support that it enjoyed. There were various reasons why the TFM was not a success depending on who you speak to, but one hard fact was that there were not enough buy-side participants.

To rival GSTPA along came Omgeo, which was a venture between the DTCC and Thompson financial. Thompson already owned OASYS, which was one of the leading electronic trade confirmation systems. It now enjoys a near monopoly, however in spite of much trumpeting, their CTM allocation module has signed up very few buy-side firms and the canny brokers are not willing to commit large scale development costs until there is a critical mass participating. A catch-22 scenario familiar to all good ideas such as Tradepoint, Jiway and of course GSTPA. At least Omgeo is in profit.

Various other Buy-side providers are seeking to become VMUs, notably FMC with their FMCnet2, Euroclear (Crest) in the UK (has collaborations with Omgeo) and Sungard.

The T+1 distraction

In the meantime, the US markets decided in a blaze of publicity to reduce their settlement cycle to one day in the rather naï ve belief that one day was two steps closer to STP than three days. Following a report by Trading Technology pointing out the problems in processing cross-border transactions, the realisation dawned that the real consequences of T+1 were to

force a complex process to take only one day rather than three, with no real business benefits apart from a reduction (not eradication) of systemic risk that was largely covered anyway. As illustrated in figure 2, the allocation process creates the greatest latency in the transaction process, and is made far worse when the allocations come from a client in a different time zone. In either respect the SIA together with all the "market experts" have not come up with a solution for the complex process, which is what is really needed to drive down costs.

The Trading Technology report, summary and subsequent articles that appeared in the financial press in the US and UK, pointed out various scenarios where settlement would either fail or everyone involved would have to operate on a 24 hour basis, and urged the SIA to concentrate on solving STP rather than simply T+1. Six months later the SIA famously announced that it was investigating "various scenarios", put on hold T+1 to concentrate on STP instead. While Trading Technology cannot entirely link the uncanny similarity between its own conclusions and the SIA's, we can offer a solution for the complex process.

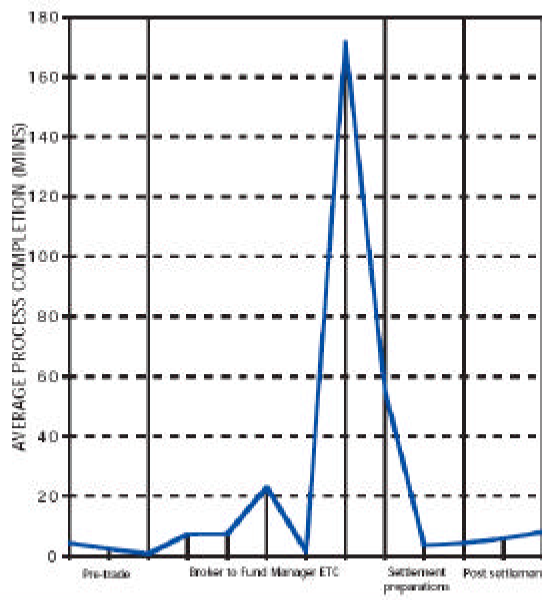

Figure 2: Completion time for fund managers domestic equities (STP Benchmarks)

The radical solution is…

The radical solution is simply to force the Buy side to process their own allocations.

I see the analogy to online shopping for groceries. At present, it would be like ordering groceries that could not be delivered until you had specified exactly on which shelf and in which drawer all of the items had to be placed. You then had to issue the same instruction to your home help (the custodian). The deliveryman and home help would put items away and exchange money. Imagine then that by law, you had to use many different supermarkets, so that even if you had trained one deliveryman to do the job well, a new one would turn up the next time. Under our changes, the delivery man would leave all the items at the door and the home help would put away.

There are some things that have to be done by oneself. Putting objects away, filling out expenses claims, packing suitcases for business trips. All go wrong if you try and get someone else to do it for you.

So how do you force the buy side to do their own allocations? Well it is really very simple. You outlaw agency trades. When Fidelity instructs Merrill Lynch to buy stock for 30 or their funds, Merrills process the order and settles with Fidelity, not Fidelities' funds. Fidelity has a holding account, which it then transfers the executions to the target funds however it wants. Heresy? Just common kitchen sink sense.

Reduction in counterparty codes

The changes would importantly reduce the numbers of counterparties in use to a fraction of the present levels. At the moment, all of the sell side brokers need to have counterparty codes for all of the buy side's funds to be able to settle with them. The numbers of potential counterparty codes in the UK numbers about 460,000[1], of which approximately 100,000 are funds. Multiply this by all the depositories in the world, and you begin to see why there is a problem with cross-border trading that no amount of fancy IT will solve.

The number of codes would shrink down to a mere 600 or so if settlement occurred between the market entities (buy side + sell side).

The maintenance of all of the fund codes is a nightmare, when there are new funds opening every day, merging, changing names and closing, especially when they all have very similar lengthy names. The maintenance of this counterparty data is also what causes corrections and amendments, all processed manually, and why there are so many static database systems in use.

Omgeo attempted to resolve the messy issue over counterparty codes with the establishment of a database called "Alert". Again the buy side have been lazy about populating this, and invariably do so after trades have been done. Many global brokers have tried to link their static data depositories into Alert but have found the data coming down the line less than clean, requiring sophisticated data cleansing rules to be put in place as well as a suite of validation routines which simply throw the garbage data out.

Under a regime where the fund managers performed their own allocations, the fund codes would of course still exist in your national depository, but the only entity that would use them would be the fund manager who operates them (via their custodian). There would be no need for these account codes to be made available to all of the financial institutions, reducing or even eliminating the possibility of error.

Reduction in time taken to transact and make T+1 or even T+0 achievable.

Referring to the latency graph in Figure 2, all other parts of the trade-to-settlement process take under 2 minutes to do except for the allocation process which takes an average of 171 minutes. This is also exacerbated by the fact that the allocation process requires both buy and sell side to communicate and verify that the allocations are correct. If sell side settles with the buy side's holding account, the buy side (arguably) does not need to be "on line", especially if it is in another time zone. This does mean that the original order becomes binding, which in reality it already is.

Thus the latency spike disappears and the entire process can be completed in less than 10 minutes.

Probable consequences

When this proposal is put forward to business heads in the city, the reaction has been unfavourable; however there have not been any good reasons given as to why it cannot be processed this way. The argument, after five levels of "why" being asked, has usually boiled down to a whimpering "but the Fund Managers are too busy to concentrate on these things". This is really the crux of the problem. The fund managers are at the start of the food chain in financial services, everyone else is bending over backwards to sell services to them, and they are slightly spoilt, especially when it comes to investment in IT.

The fund managers would counter that they would have to install lots of IT systems and that this would be an expense which the investors would have ultimately have to pay for. This is of

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[1] Crest December 2003.

course nonsense as most Fund Managers have to issue the allocations anyway, the larger ones have systems and if not, their custodians would offer it for them.

How is that different to what happens at the moment? Mainly the incentive is there. There is no incentive for the buy side to build systems to rationalise their processing while the brokers happily take instructions in whatever form is convenient for them. Under this new regime, if the correct executions do not arrive in the target funds by settlement day it will be the fund managers who get penalised, not the brokers.

Would they need to allocate within T+3?

So under the new regime the sell side broker trades and settles with the institutions holding account. The Institution would then "give up" ownership from the holding account to the individual destination funds without the need to transaction report. Would this all need to happen within the (currently) T+3 window or can they do it at their leisure? While there is an argument to say that it is all in the ownership of the same organisation anyway, so what does it matter whether it is back to back with the trade or three weeks later?

The regulators may well argue that this arrangement could enable fund managers to hold onto stock in the holding account and create risk if the allocations were not made in a timely fashion, especially if the institution went bust. They would therefore have to ensure the allocations were made as soon as practically possible within the T+3 window or face fines.

The same applies with the cash side of the transaction.

Cutting out the sell side altogether?

Another debate would be about whether fund managers should not access the Stock Exchange order book directly without having to pay commissions to a broker. This may well be the case for smaller domestic business, but the service in respect of working larger orders, and of course the coverage of international markets, would ensure the survival of the sell side broker business.

Cross Border trades

The major headache of cross border trading would benefit dramatically, as the executions in one market would simply settle with the institutional entity without waiting for instructions, decreasing the latency from fund managers in different time zones.

The unbundling of soft commissions debate

The allocation of funds is effectively not charged for and is bundled with commissions. This makes it almost impossible for the sell side to inflict any sort of discipline to the buy side, as they are the customers and the customer is king.

Trading Technology have proposed differential charging within custodians for bad or late instructions with incentives to use electronic or extranet-type applications, but this is not transferable to the sell side as there is no distinct charging for this activity.

Layered onto that the problem that the buy side has to deal with several sell side firms, it becomes a many-to-many relationship, therefore it is not worth adopting the technology of one of the sell side firms, as it will only work for orders processed by them. This is what GSTPA's TFM system sought to solve, with a single system for processing all of them. It failed simply because it required the buy side to invest in technology to talk to it, with no *direct* business benefit to them.

The unbundling of commissions is being hotly debated in respect of analyst's reports, which are also paid for by commissions. The SFA's consultation paper CP176 lays out the proposed unbundling of commissions in respect of research and other giveaways such as market data

feeds between the sell and buys sides. It needs to be widened to split out the cost of settlement at least.

The radical solution would, however, force the unbundling of soft commissions in respect of allocation automatically. The sell side brokers would probably offer to perform the outsourcing for free as an incentive to attract orders, but this would not last very long as they would not be able to charge a premium on the commission to pay for it. The buy-side would simply chose a "bucket shop" service for lower commission and still expect the allocating broker to process the transactions anyway.

The status would eventually resolve itself down to a charge being levied for the service, and this will force the fund managers to implement systems to process the allocations quickly, and probably assign the job to their custodians to perform.

So why has this not been proposed before?

This is an interesting point. There are two rather cynical reasons:

- Most industry practitioners, who are advising the central authorities, are stuck in the wood and cannot see the trees
- Nobody actually makes any money out of this, except the investor on the street.

If either is the case, this does not reflect very well on the industry as a whole. It also underlines the importance of the use of proper consultancies for determining industry problems with no vested interests.

Adoption of an industry standard sales ledger for commissions

Someone I met at a conference recently, who is evidently new to the industry, had tried to get SAP to attend the event. SAP explained that they had no intention to sell their systems into the financial services world. He was mystified and I tried to explain why. In doing so, it bought back suspicions that the financial services world could indeed adopt a sales ledger process, as it is becoming more of a commodities industry with higher volumes with standard commission rates.

In outline it would work like this:

- Order comes in; order is placed onto the market either directly or via a broker.
- Cash and Stock gets moved appropriately, however no transaction charges are paid.
- Broker adds up all the business that it has done with the buy side and invoices the commission on a periodic basis, weekly, bi-weekly or monthly, just like all other business have to.
- In respect of fairness, the eventual client, being a fund-holder or a retail investor, is also invoiced at the same time, back-to-back.

Financial services is almost the only industry that demands payment for their services at the same time as doing the work. This of course complicates the main process of moving stock and cash.

The only other established practice where you pay-as-you-transact is when you move home. Your solicitor's fees, estate agents fees and the Inland Revenue get paid as your money changes hands. Originally of course this is how share certificates changed hands, and still does in the case of private equity where there is no clear value for the company. But things have moved on since the Victorian era and this is now a commodity business.

Again there would be fierce resistance from the financial services community, pointing out the different commission rates that accompany different transactions (particularly at the large order end) and the risk introduced by periodic invoicing. Again for both I would argue that differing commission rates is the same as agreeing the bill at the outset of doing business,

vary familiar in industry, and that risk involved in settling invoices is also something that is dealt with happily in industry with credit lines and such. The risk of a counterparty going bust and therefore failing to pay their invoices would of course only damage the firms not the eventual investors (any more than it would today).

Again, this would separate out the business of trading and settlement from the business of charging for services, and also make them more transparent. Firms can happily argue about bills for services without it affecting the smooth processing of transactions. The main benefit would be to widen the availability of ledger systems and professional expertise, which are considerably cheaper than the specialist systems and staff required today.

The abolition of contracts

Another amazingly anachronistic feature of the post-trading environment is the continued existence of contracts. Accompanying each agency transaction (where a broker executes on behalf of a buy-side client) comes a contract note. These are sent by fax, SWIFT, TRAX and even e-mail after an execution from the sell side to the buy side, detailing the following:

- Execution details: buy/sell, stock price, currency etc
- Commission
- Stamp duty
- Panel on Take-overs and Mergers levy
- Market fees
- Stock delivery details
- A whole raft of wording forming a contract that is compliant with the regulators of the market in which the transaction is done.

These in origin are very similar to the contract that you exchange when you buy a house.

In fact these contracts are now sent electronically via OASYS, TRAX, SWIFT and fax. Computers at the sell-side put the information into a preformatted contract and computers at the buy side end take the important information out. Invariably the wording is wrong on many of the contracts or it out of date, but no one cares as no one reads it anyway. Also the (constantly changing) contract wording is different according to the execution centre it has been traded on making system changes awkward.

If a fund manager disagrees with the details of the contract, they have to revert back to the order details, and where the order is given over the phone then the “tape” has to be replayed, which the sell side are required by law to keep. No “contract” has ever been used in a legal proceeding proving that it is not worth the bytes that they are written on.

The notion of contracts would be useful if the broker was dealing with an entity that it did not know, in the same way that a contract for the purchase of a house is needed. However the reality is that brokers are dealing with very familiar entities. Even if the entity is a new unknown, they all come under the stewardship of the regulators anyway.

Everyone except the legal teams within country regulators has described the existence of contracts as “absurd”.

Thus contracts should simply be abolished. Ordinary messages still need to pass between buy and sell side, the terms under which they do business should be covered by market regulations.

Business benefit?

There are many assumptions about how the levels of STP would change under these proposals. What follows is a *very* conservative estimation. It is likely that there would be significantly greater benefits that are harder to quantify.

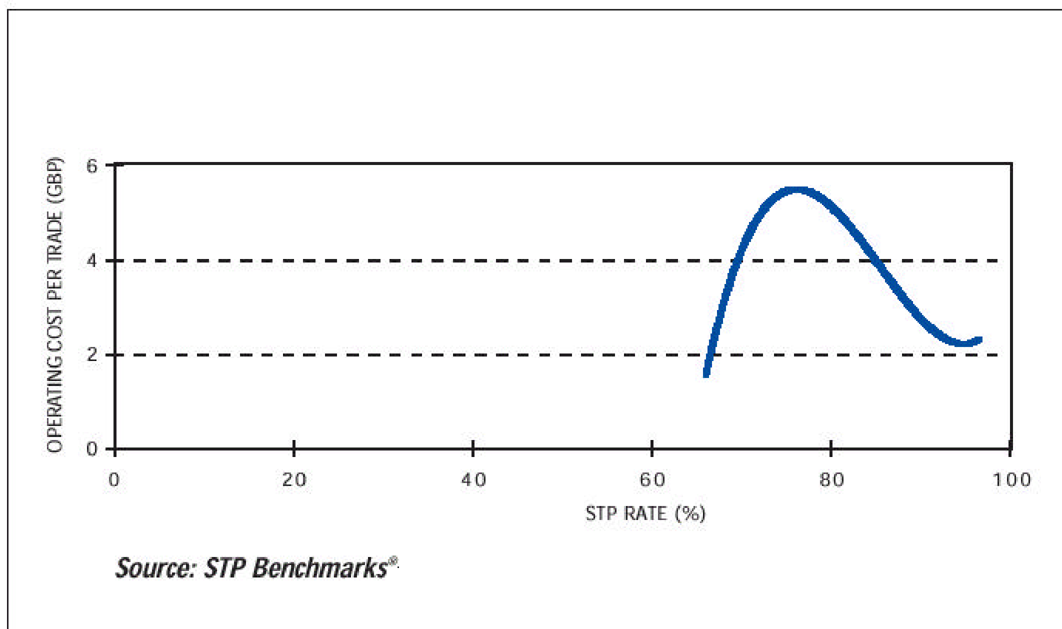

Figure 3: Cost of transaction vs. STP rate

The allocation process is by far the largest problem but is not the only cause of manual intervention. Using prediction graphs for the cost of transaction from STP Benchmarks, currently the overall cost per transaction is £3.67 with an overall STP rate of 90.07%. As the allocation process accounts for approximately 50% of the incidents of STP in the sell side (they are the ones that would benefit chiefly from this process, and assuming STP would increase to 95% at least) would edge the overall STP rate to above 95%. At 95% the cost per transaction levels off at around £2.2 per transaction, inferring that there can be no more savings possible through STP above those levels, this equates to a saving of £1.47 per trade. With 46 Million transactions through the London Stock Exchange in 2003, this would bring an overall saving of £67M per year for the investor. If applied across Europe, this would be £410M and across the world it would be at least £4b.

There would be even greater benefits involved in the rationalisation of contracts, the benefits to the entire securities industry for the unbundling of commissions and the adoption of a standard ledger-invoicing scheme would be hard to quantify. Most firms of course do have these standard accounting systems, so the would be little or no excuse that investment would be needed to implement them.

There would, however, need to be functionality to tie the charges back to the originating transaction, and in effect the best way of doing this would be to keep the transaction costs in the post-trading message, where they are known and providing that they do not delay the settlement process.

Implementation

As trading is global, there could be problems in implementation of such changes, as it would be difficult to have a different regime for different countries. Much is dependent on the US implementing such a change as it still contains approximately 60% of all funds under management. The UK is probably the next largest market, ignoring centres for “offshore” funds. If both regulators instigate the recommended changes in unison, the rest of the world will have to follow.

Conclusion

The financial services industry is a dinosaur in respect to its post-trading operations, and clings to a process that has evolved from the days of paper-based transactions without any original thought as to how it can be improved.

The financial services world needs business process re-engineering in light of the use of electronic communications and the nature of cross-border transactions.

Regulators need to change the rules to force the buy side to take ownership of allocations, which would provide the incentive for real STP and drive down costs for the investor.

As a step further, regulators can also legislate the removal of commissions from the main task of trading and settlement, to adopt an industry standard sales ledger process and additionally do away with the absurdity of contracts.

Background to Trading Technology Ltd

Trading Technology (not to be mistaken for Trading Technologies) is primarily a specialist consultancy in technology issues for central markets, and has an unbroken record of system delivery and incisive foresight. Trading Technology also performs research for business related issues as they are inextricably tied to technology. Trading Technology is therefore an unrivalled source of knowledge for best practises amongst exchanges, clearing houses and brokers.

Trading Technology Ltd works equally for the broker community and those serving them. Our main offerings are

- Project management for system implementations
- Business analysis, requirements definitions for solution provision
- IT marketing and strategy advice

For further details of Trading Technology's services see
www.tradingtechnology.com

Or contact:

Paul Pickup, Director.
paul.pickup@tradingtechnology.com

Tel: 020 7253 5220