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Trade matching in the traditional and alternative markets

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ABSTRACT

Pressures from investors and regulators are accelerating the pace of convergence in traditional and alternative asset management organisations and improving standards of practice. At present, in the traditional investment management arena, managers' and brokers' records are generally compared on a trade-by-trade basis and custodians are authorised by the managers to settle matched transactions. In the hedge fund world, prime brokers, often serving as both trading counterparty and custodian, either settle trades without any affirmation or issue the affirmation on behalf of the manager. After tracing the historical development of these two de facto *industry standards, the author comments on the role of the administrator, illustrates how the absence of trade matching increases hedge fund managers' costs, explores why the hedge fund industry has accepted an error-prone process, and outlines a resolution.*

Keywords: trade matching, hedge fund, operational risk, affirmation, failed trades

INTRODUCTION

Efficient and effective trade communication, matching and affirmation are critical for well-run operations on the buy side and help the sell side run more smoothly as well. The importance of getting things right the first time — and capturing errors and issues as rapidly as possible — cannot be overstated. Yet the buy side employs two entirely different models for the process: traditional investment managers

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use one and hedge fund managers, another. The difference between these two methods fosters confusion about best practice, makes it all too easy to overlook an opportunity to trap errors and reduce costs, and increases operational risk for the growing number of managers who compete in both the traditional and alternative arenas.

THE TWO METHODS

In the antediluvian days of manual processing, traditional investment managers would place an order with a counterparty, usually on the telephone, and then receive the execution details (quantity executed, price, commission, etc) from the counterparty in a subsequent conversation. Managers would then allocate those block trades to participating portfolios and communicate the allocation details back to the counterparty. At this stage the counterparty could issue trade confirmations for each account — a paper-based process — to be sent to the manager either by courier or via the postal service. Upon receiving the confirmations, the investment managers' operations teams would compare them with the managers' own records (ie, paper trading tickets and allocation schedules). In the instances where the tickets matched the confirmations, the manager's operations team would then send the custodian a manually signed 'bank notification letter', customarily transmitted via fax, authorising settlement of the transaction.

By the early 1980s, the Depository Trust Company's ID system (DTC-ID) enabled brokers to send confirmation details to managers electronically and allowed managers to 'affirm' a trade on the system in lieu of sending a bank notification letter. Investment managers' operations teams would log on to DTC-ID, print their confirmation details and log off. They would then manually compare these details with their own trade tickets. Later in the day, those same operations teams would log back on to DTC-ID and enter an affirmation code for each transaction that matched the manager's records. Once the trade was affirmed, DTC would notify the custodian that the manager had authorised settlement of the trade. Mismatched trades were then investigated; the offending party — the manager, the broker or sometimes both — updated their records and the transaction became eligible for affirmation the following day.

As the years went by, the process grew much more streamlined. Time-saving improvements included automated routines eliminating the need to match trades manually, the ability to upload affirmation details and multiple updates each day. Investment managers enjoyed significant operational efficiency as a result of the process: they no longer needed to perform manual comparisons or prepare and fax bank notification letters to scores of custodians. In addition, managers became aware of potential problems much earlier than had previously been possible. Having more time to resolve an issue prior to settlement lowers the likelihood of failed trades. But the fundamental tenets of the process remained:[1]

- Broker sends fully-allocated confirmation to manager;
- Manager compares broker information with manager's information on a trade-by-trade basis;
- Manager authorises custodian to settle matched transactions.

As hedge funds rose to prominence in the 1990s and 2000s, a new class of investment manager entered the capital markets. In addition to managing distinctive investment strategies and utilising an unconventional investment vehicle, this new group of managers differed from traditional man-

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agers in two key ways. They generally utilised only one settlement agent and lacked an internal operations team. Prime brokerage firms stepped up to meet the emergent market opportunity by offering hedge fund managers 'one-stop shopping' for all their infrastructure and support needs from financing and trading to systems support and even office space.

Many hedge fund managers rely on their prime broker to serve as both the counterparty to a trade and the custodian or safe-keeper of the fund's assets. Eager to help hedge fund managers streamline their operations, the prime brokers either settled trades on behalf of the manager without any affirmation or offered to issue the affirmation on the manager's behalf. Over time, this became the *de facto* hedge fund industry standard. Even hedge fund managers with the capacity and desire to issue their own affirmations generally are unable to do so.

WHICH METHOD IS BETTER?

Theoretically there is merit to the second approach in which the prime broker issues the affirmation. It appears to reduce costs for the manager and it may relieve the prime broker from high fail rates when hedge fund managers do not issue timely affirmations. But the effectiveness of this approach is predicated on the hedge fund manager maintaining accurate trading records and someone (either the hedge fund manager or the prime broker) then matching the manager's records to the counterparty confirmation — and doing so, it is to be hoped, prior to settlement. Without such a match, the concept of straight-through processing (STP) tends to become something more like straight-through problems. There is simply no opportunity to identify an error.

Consider two scenarios for error. In the first scenario, the hedge fund manager oversees two funds and periodically executes block trades for both funds to transact in the same security. A given trade might purchase 10,000 shares of a security with 6,000 shares allocated to Fund A and 4,000 shares to Fund B. Upon issuing the confirmation, the counterparty might transpose the share amounts, allocating 4,000 shares instead to Fund A and 6,000 shares to Fund B. Without a matching process, the prime broker will settle the two transactions with the incorrect share allocations. Whether the manager relies on prime-broker records for daily positions or, perhaps, keeps separate records on an Excel™ spreadsheet, or formal shadow investment accounting application, in the absence of daily position reconciliation on an account-specific basis this error could go unnoticed for months. The mistake is even more likely to elude detection in a high-volume environment.

In the second scenario, the manager may execute a trade for a fund at a particular price, but the counterparty recorded a slightly different price — to stay with the same example of a simple transposition error, let us say 54.23 rather than 54.32. If the manager does not maintain trade tickets, much less pass them on to the prime broker and fund administrator, there is no way for the latter to perform a match (presuming either party was inclined or obligated to do so). Even in the improbable position where this price problem was identified by a vigilant portfolio manager with an exceptional memory, it would be difficult to correct if the manager has no contemporaneous record of the transaction.

Many small-to-medium hedge fund managers will argue that such errors generally do not take place. (Not having matched trades, it is easy to believe there are no errors since the manager is not forced to deal with them daily.) Those who routinely match trades would differ,

and will undoubtedly have the statistics to prove it.

Omgeo Benchmarks,[2] a performance benchmarking tool offered by The Depository Trust & Clearing Corporation (DTCC) and Thomson Reuters' jointly-owned industry utility, classifies the main types of transaction errors, as a percentage of identified errors (see Table 1).

THE ROLE OF THE FUND ADMINISTRATOR

Without necessarily thinking the matter through, some hedge fund managers will look to their fund administrator to oversee trade settlement. If the manager is forwarding its version of trading information to the administrator (not simply forwarding confirmations), then the administrator is equipped to perform a trade match, although not as early in the process as one might consider optimal. Some administrators, however, do not have a contractual obligation to perform trade matching and will turn to these records only when investigating other issues. If, on the other hand, the investment manager is not maintaining adequate documentation of its trading activity, then even the most willing and cooperative fund administrator cannot perform a match. Half the information is missing.

Industry participants should also consider whether the fund administrator is the appropriate party to perform trade matching on behalf of the manager. The administrator actually works for the hedge fund itself, not the hedge fund manager. In addition, organisations that utilise multiple administrators are further challenged because matching occurs in different places rather than a centralised location. Note, too, that separate accounts managed by the hedge fund manager, which do not require the services of an administrator, nonetheless have the same need for trade matching.

Table 1: The main types of transaction errors

Transaction error	*% of identified errors*
Incorrect commission	28%
Incorrect amount	21%
Incorrect price	13%
Incorrect settlement data	10%
Incorrect quantity	9%
Duplicate order	5%
Unexplained	3%
Incorrect value	3%
Incorrect currency	3%
Error in block trade	3%
Buy/sell transposed	1%

Source: The Depository Trust & Clearing Corporation

THE IMPORTANCE OF EARLY DETECTION

Identifying and correcting trade errors is key to mitigating operational risk and reducing costs throughout the organisation. Trade-related errors have a cascading effect in an investment management firm, potentially creating downstream issues with internal, regulatory and client reporting; performance measurement; risk management; client billing; investment guideline monitoring; proxy voting; corporate actions processing; and providing investment teams with accurate information on which to base their next investment decision.

Perhaps the most dangerous errors are those that mislead the manager as to the quantity of a given security that is held. Obviously, if a manager sells the presumable position, he or she could inadvertently fail to sell enough or, worse, unintentionally sell the security short. Likewise, if the manager plans to increase the position, he or she will fail to execute a transaction for the correct amount. No less obviously, when a single security's quantity is incorrect, the total portfolio

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market value is wrong, the country/currency, sector and industry allocations are incorrect and portfolio performance is miscalculated. Investment decisions based on these weights will be flawed. If a corporate action such as a stock split or dividend is then applied to the position, those transactions will also be incorrect. Internal and external reports will be misstated. Investment guidelines will be evaluated against incorrect total portfolio market values and, because the total market value is wrong, allocations of trades in other securities will be inappropriately applied. Net asset values (NAVs) would be struck at the wrong value with investors then entering and exiting a fund at incorrect prices.

Based on Table 1 above, incorrect quantity, duplicate order and buy/sell transposition errors represent approximately 15 per cent of trade errors. To put this in perspective, consider an investment management firm executing 2,000 trades per month or about 100 trades/day. With a 2 per cent error rate, roughly 40 trades per month will be incorrect, while a 10 per cent error rate equates to 200 incorrect transactions per month. If 15 per cent of those involve an incorrect quantity, 6–30 trades per month result in portfolio managers making critical buy-sell decisions based on incorrect positions.

In addition to the obvious potential cost from making investment decisions on the basis of incorrect data, the operational expense to fix an error is substantial when compared with the cost of doing it right the first time. For all errors — regardless of fault — there is the cost of researching the error to ascertain who has the correct information. For errors that are the investment manager's fault, the trade generally is cancelled and re-entered, minimally costing three times as much as getting it right the first time. Regardless of fault, the trade will need to be re-matched and any subsequent transactions that may have occurred (eg, sells that happened after an incorrect purchase, corporate actions, and the like) may have to be cancelled and re-entered. New information will need to be transmitted to the custodian or safe-keeper of the asset. Internal and client reports may need to be revised. Investment guidelines may need to be re-examined. And new client invoices might be required.

These downstream repairs sop up operational resources and budget quickly. In some organisations, staff are so busy putting out fires that no one is available to introduce operational improvements and address the issue of capturing trade errors early in the process.

OBSTACLES TO REFORM

With so much at stake, why hasn't the industry changed? We believe there are several reasons for complacency within the industry. Many managers continue to be unaware that they have a problem. Their lack of recordkeeping, possibly coupled with sheer good fortune, may have allowed small errors to pass without detection and, therefore, without prompting corrective action. As previously observed, a number of managers have relied upon their fund administrator to fill the void, although perhaps without considering the long-term implications of that choice in view of migrating toward a multi-administrator environment or dealing with separate accounts when no administrator is involved.

In other cases, the managers have identified the importance of matching and have implemented systems to identify mismatched trades promptly. They proactively send their trade details to both their prime broker and their fund administrator, thereby providing both parties with their side of the trade to facilitate a match. Yet they are unable to shift the industry model

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and take responsibility for issuing the affirmation themselves. Only through managers having affirmation responsibility — or, even better, utilising a central matching utility that issues the affirmation after comparing manager-provided trade details with counterparty-provided trade information — will managers be able to ensure the earliest-possible match and avoid erroneous settlement of incorrect trades.

Part of the challenge in shifting the industry model is a lack of information. Many investment managers, traditional and alternative managers alike, do not maintain and track key trading metrics on match rates, fail rates and the causes of errors. Perhaps more importantly, most organisations are unable to quantify the cost of an error. The vast majority of investment management firms do not examine their operational costs from a service-based perspective and are unable to isolate the unit cost of executing and settling a trade, much less identifying and correcting a trade error, or the downstream cost of reversing and re-entering a corporate action, re-issuing a client report or revising a rate of return. Without this cost information in hand, it is difficult to justify the time and expense of implementing new systems and procedures to perform what many consider an unnecessary up-front comparison.

If managers were more aware of their unit costs, they would take a more proactive stance in monitoring the error rates of their counterparties and even go so far as to curtail trading with firms that contribute to higher levels of mismatched trades.

Any change to the hedge fund industry model will require an organised push by investment managers aimed at driving prime brokers to relinquish their role as the affirming party. However, alternative investment managers are not highly organised, nor are they in agreement on the importance of pre-settlement trade matching.

CONVERGENCE, AUTOMATION, REGULATION AND INVESTORS TO THE RESCUE

Convergence between traditional investment managers and alternative investment managers (eg, hedge fund managers, real estate and private equity managers, fund-of-fund managers and the like) has been happening for some time, but pressures from institutional investors and regulators are accelerating the pace of change. From a front-office perspective, each group has taken steps toward greater uniformity through investment strategy offerings and the correlative use of new investment vehicles. Both types of managers are newly looking at distribution channels to identify better ways to gather assets and to target strategies and vehicles by channel. M&A activity will pick up, with traditional managers acquiring alternative firms and vice versa. Many investment firms will lift out entire investment teams from other organisations with an eye toward offering new product and strategy capabilities. And from a compliance point of view, the line between the two groups continues to blur with SEC or state registration looming for hedge fund managers and, possibly, private equity managers.

As the pace of convergence accelerates, many investment managers will find themselves supporting both industry models — matching and affirming trades (or utilising a central matching utility) for their traditional investment strategies and separate accounts while surrendering their affirmation capabilities for their hedge fund portfolios. By supporting two models, managers will require two sets of workflows, additional overhead when designing systems data flows and chal-

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Table 2: Historic Affirmation Rates

		Confirm/affirm model	*Matching model*	*Blended rate*
December 2004	Trade date	21%	49%	27%
	Trade date + 1	82%	87%	83%
	Trade date + 2(am)	88%	92%	89%
December 2005	Trade date	17%	53%	25%
	Trade date + 1	83%	90%	84%
	Trade date + 2(am)	88%	92%	89%
December 2006	Trade date	14%	56%	23%
	Trade date + 1	86%	89%	87%
	Trade date + 2(am)	90%	91%	90%
December 2007	Trade date	16%	60%	26%
	Trade date + 1	86%	90%	87%
	Trade date + 2(am)	90%	92%	91%
December 2008	Trade date	21%	56%	33%
	Trade date + 1	81%	92%	84%
	Trade date + 2(am)	84%	93%	87%
December 2009	Trade date	26%	59%	37%
	Trade date + 1	84%	92%	87%
	Trade date + 2(am)	87%	93%	90%
March 2010	Trade date	29%	60%	40%
	Trade date + 1	85%	92%	87%
	Trade date + 2(am)	88%	93%	91%

lenges with cross-training staff across both models. The outcome is higher levels of operational risk and increased cost, that is to say, higher risk at higher cost.

Despite their inability to quantify the costs and benefits, in most cases traditional managers appreciate the value of trade matching. However slowly and deliberately, many of these managers are evaluating the benefits of migrating from an automated confirmation/affirmation model (with its rigid sequencing requirements) to a central matching approach. With a long history of lobbying, traditional managers are generally a better-organised lot than alternative managers, and industry efforts are underway to press for same-day affirmation (SDA) with a working group within the Asset Managers' Forum (AMF) recommending pre-settlement matching at the depository for all $T+3$ trades prior to settlement. (This working group presented their findings and recommendations to the general membership of the International Securities Association for Institutional Trade Communication (ISITC) in June 2010.) The drive toward pre-settlement matching will, at a minimum, require managers to offer up their side of every trade so that someone can match it. In addition, the growing appeal of central trade matching would shift affirmation to the central utility and away from both the prime broker and the manager while concurrently improving match rates.

According to Omgeo,[3] historic match rates using a centralised matching model are notably higher than using the sequential confirm/affirm model. Examining seven monthly periods from December 2004 to March 2010, $T+2$ noon match rates with the confirm/affirm model range from 84–90 per cent while the central match model produces rates from 91–93 per cent. The improved speed of centralised match-

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ing can be seen with the trade date match rates, which range from 14–29 per cent using the confirm/affirm model and sky-rocket to 49–60 per cent with the central matching approach (see Table 2).

Many industry observers lay the blame for today's two-model approach at the feet of the broker/dealer (B/D) community, since several large B/Ds did not want to dedicate resources to re-engineer their existing systems and processes to support new same-day settlement models or central trade matching. While B/D participation certainly would accelerate the pace of adoption for a central matching facility, it does not address the failure of some managers to maintain appropriate trade records. In addition, B/D reticence to re-engineer workflows and systems has no bearing on whether managers assume responsibility for matching their trades to confirmations at all — much less on a timely basis.

As investors continue to exert downward fee pressure, traditional and alternative investment managers alike are taking a fresh look at what is included in a manager's base fee. Shadow investment accounting, research, trade matching, performance analytics and customised reporting are all under the microscope. To date, many alternative investment managers have eschewed the need for shadow investment accounting or trade matching of any sort — and their clients, regulators and key service providers have supported their minimalist stance. Since most shadow accounting and trade matching performed by the manager is not typically chargeable to a fund, many hedge fund managers have side-stepped such activities.

Regulatory clarification, as to whether matching is required, will go a long way towards improving current industry practice, particularly if regulators consider matching to be the managers' responsibility. Once hedge fund managers are fully engaged and their responsibilities are clarified, they will seek to streamline these operational processes wherever possible. Even in the absence of convergence, alternative investment managers will work hand-in-glove with traditional managers to bring the necessary market pressure to bear on brokers to streamline processes.

It appears unlikely there will ever be an environment more favourable for industry regulation than at present. If regulators truly seek to address systemic risk, limiting the overall number of failed trades throughout the industry will be a small but meaningful contribution toward a better process. One key step in such an initiative is mandatory trade matching on a timely basis. One can only hope regulators recognise the value of such an activity, even if some industry participants cannot yet see the light.

Concurrent with the two pressures of convergence and needed automation originating within the investment management industry, the new influence of regulatory reform may be the final push needed to get alternative managers to focus, at a minimum, on their recordkeeping. Under Section 204 of the Advisers Act and Rule 204-2(a)(3), US-registered investment advisers are required to make and keep true, accurate and current order memoranda for the purchase and sale of any security on behalf of a client. Many hedge fund managers, now subject to registration, will have to comply with this requirement. They will therefore have to establish a process for recording their version of a trade, thus eliminating a key roadblock to matching.

It bears mention that, in reality, many traditional investment managers have skirted the process of trade matching and affirmation as well. Rather than loading trades from their own order management system or manually keying them in from paper tickets, some traditional managers

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create the initial trade input by downloading confirmations from industry utilities, such as Omgeo, to their investment accounting systems. This is far from best practice. These managers then adopt one of four general approaches toward matching and affirmation:

- Manual comparison and fax affirmation;
- Ceding their affirmation responsibility to their custodian(s) and thus following the hedge fund model;
- Automatic affirmation of trades without bothering to match them; or
- No affirmation whatsoever.

Omgeo statistics show that for the 12 months ending 30th April, 2010, more than 10 per cent of DTC-eligible $T+3$ trades in the USA were not affirmed — equating to 12,476,335 transactions. An even larger number are believed to be affirmed without any prior match.[4]

Other than the first approach of manually comparing trades and faxing affirmations, this short-cut trade entry strategy certainly eliminates the need for additional data-entry staff to support automated systems. If these managers were to look at their true all-in costs, they would redesign their process to incorporate an independent input source to their systems with an automated matching capability.

CONCLUSION

The influence driving traditional and alternative managers into a proactive and timely match-and-affirm (or central match) process will come from investors. Today's new focus on operational due diligence is beginning to shed light on the importance of trade matching. Institutional investors are pressing their managers to pay more attention to operational excellence. Most of the attention to due diligence has been in the alternatives arena, but investors are slowly realising they cannot hold traditional and alternative managers to different standards of care and are beginning to subject their traditional managers to more rigorous operational reviews.

Unfortunately the Alternative Investment Management Association (AIMA), in their 'Illustrative Questionnaire for Due Diligence' only asks managers whether they reconcile trades to broker confirmations and how often; it does not ask who does it or how quickly it happens. Yet as investors become more familiar with how their traditional managers operate, as regulatory oversight mandates recordkeeping of orders and trades, as separate account clients balk at paying for external fund administrators and as the industry embraces the concept of central trade matching, it is hopeful that the two models will come together in a single, best-practice environment — same-day affirmation via a central matching utility with mandatory pre-settlement matching.

REFERENCES

(1) The focus of this paper is on whether a trade match takes place at all, and our discussion of two models is limited accordingly. Within an environment in which trades are matched, there are also two approaches or models. Automated matching, or 'verification' as it is sometimes known, can be done on a local or a global basis. Local matching involves a mandatory sequence of events:

1. The counterparty notifies the manager of the execution;
2. The manager communicates the allocation to the counterparty;
3. The counterparty issues the allocation-detail confirmation,
4. The manager performs the match; and
5. The manager issues the affirmation (authorisation to settle).

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Global matching creates a central facility for confirmation issuance that eliminates much of the sequential processing. The counterparty notifies the central facility of the execution details and the manager notifies the same utility of the allocation. There is no need for the manager to wait for the counterparty execution information to issue the allocation details. Once both the execution details and the allocation details are known, the central facility can perform the match and issue both a confirmation to the manager and an affirmation to the counterparty as well as settlement instructions to the custodian and the counterparty's settlement agent.

(2) Building efficiencies in post-trade processing: The benefits of same-day affirmation, Oxera Consulting Ltd., June 2008, p. 23, available at: http://www.omgeo.com/document/a0v300000002oXC.

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