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Best Execution · Executing Transactions in Securities Markets on behalf of Investors

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A collection of essays

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Preface

The European asset management industry has a vital interest in defining, continuously improving and implementing best practice standards regarding all aspects of asset management including best execution.

At the European level, in the interests of the development of a single European market for asset management services, there is a clear practical need for a common understanding of "best execution" among different member states in order to enable market participants to provide cross-border services efficiently.

The fundamental problem is that best execution is a concept with several dimensions and cannot easily be defined by "hard-and-fast" rules. Is it price, limitation of market impact, speed of execution or low commissions that an asset manager should aim for ? To what extent should brokers be rewarded for research provided to an asset manager ? Should "soft commissions" be allowed and under what conditions ? When should so-called transition management services be used ? Is crossing between an asset manager's clients permissible ? How much weight should an asset manager give to the financial standing of counterparties ?

Asset managers and their (institutional) clients will be able to answer these questions on a case-by-case basis. There may also be appropriate regulatory approaches to the concept of best execution on a national level in Europe and elsewhere. It is, however, of paramount importance for the protection of investors, the development of a European market in financial services and the development of healthy, liquid European capital markets that European regulators develop an appropriate pan-European regulatory approach to best execution.

With this booklet the European Asset Management Association, which represents European asset managers, wants to provide a forum for a discussion that eventually leads to pan-European standards of best execution. The contributors to this collection of essays are all experts in one or other aspect of the subject. Many of them have in-depth practical experience in confronting the problem of what is best execution as an integral part of their

job. The views expressed in the articles do not necessarily reflect the views of the European Asset Management Association and its members. There is discussion among EAMA members on the way Alternative Trading Systems and internalisation of orders should be regulated and the degree of transparency that should be applied.

We hope that this booklet will help European legislators and regulators to develop an understanding of the issues confronting them and will be of interest to the asset management industry, its clients and other market participants.

The European Asset Management Association stands ready to give legislators and regulators technical advice on the implications of different possible definitions and approaches and to assess the merits and demerits of the different possible approaches from the perspective of the European asset management industry.

Dr. Klaus Mössle
President, European Asset Management Association

May 2002

Schrodinger's Cat – A Study in Best Execution

Gareth Adams
Fidelity Investments

Erwin Schrodinger was a distinguished scientist at the beginning of the last century who, in developing the Schrodinger equation, laid one of the building blocks for quantum physics. But he was uncomfortable with the picture of the universe that emerged – one based on probabilities not absolutes, and one in which not all was knowable. To demonstrate the strange character of the quantum universe Schrodinger posited a thought experiment.

> "Place a cat in a box with a phial of poison gas, some radioactive material and a particle detector. If a single atom of the radioactive material decays it will be picked up by the particle detector which in turn will open the phial and the cat will die. The life of the cat hinges on whether an unstable atom decays: an essentially random event."

Quantum mechanics states that we can only 'know' if the atom has decayed if we open the box and look inside. Until that point the atom has both decayed / not decayed and the cat as a result is neither dead nor alive – it is both alive and dead. Intuitively this seems odd (as Schrodinger intended). However, the mathematics of quantum physics support this analysis and as this physics is our best method of understanding the universe in which we live, difficult to ignore.

Fascinating as this may be, what does this have to do with Best Execution? I will argue that the outcome of a particular trade – whether it represents Best Execution or not – is based on a series of random variables (essentially whatever else is happening in the market at the same time). Therefore whether a trade represents Best Execution can only be known with certainty upon inspection after the event and not before.

This of itself would not be an issue unless we had a posse of European

regulators attempting to treat Best Execution as a fully predictable event, and putting firms in a position of breach if a particular price is not achieved. The logic of such an approach is about as sensible as placing an obligation on a firm to call the toss of a coin successfully 100% of the time. More sensible is the approach adopted by the SEC[1] for example and suggested by the Association for Investment Management and Research in its Proposed Trade Management Guidelines[2]. Their Guidelines currently recognise that Best Execution "is a prospective, statistical concept that cannot be known with certainty *ex ante*"[3].

One of the cornerstones for quantum physics (and some of its more bizarre offspring such as chaos theory) is the notion that you cannot know both the position and velocity of an atomic particle at the same time. The reason being that the act of observation (crudely, shining a light on the particle) changes either the position or velocity of the particle. The act of observation changes the characteristics of what is being observed. Niels Bohr interpreted the Schrodinger cat experiment as meaning that it is the act of opening the box and looking in that moved the cat from its indeterminate state to being either alive or dead.

Consider then the trading process as it occurs every day at a large fund management company. A trader has an order to execute on behalf of his portfolio manager. He reviews the market. First of all he looks at the screens (and with the growth of alternative execution venues that can be quite a few screens which require an increasing level of interpretation). Then he makes a call to a broker. The trader is unlikely to tip his hand but the call will indicate to the broker a certain level of interest. The significance attached to the call will be a personal interpretation by the broker based on his knowledge of the stock, past dealings with that fund manager's trader and all the other pieces of information, rumour and gossip in the air at the time. Depending on the importance he attaches to the call, the broker may let his market maker know and the market maker (depending on the position in his book) may change his view on the pricing. The broker may also take it into account in the next call he takes from another trader in how he describes the stock's liquidity and its pricing and that in turn may influence the second trader in whether he wants to go to the market now or later. Our trader then calls broker number two and the same series of cause and effect starts over again. The

fact that a deal is being contemplated is beginning to influence the market. The trader has dropped a small stone into a still pool and the ripples are flowing out.

A few minutes later our original trader executes the trade in that stock with another broker. Taking into account what is on the screen, what the brokers have told him and some of the quotes he has received, the trader picks a price and deals. Yet the ripples from that stone are still spreading outward and some of the alternative execution venues have yet to respond because they are further away from the centre. At the exact moment the deal is struck somewhere far away a better price clicks up on the screens.

Taking the current approach preferred by many European regulators the trader has arguably failed in his obligation to achieve Best Execution (essentially has failed to be omnipresent and omnipotent) because at the moment he dealt there was a better price available somewhere else. Yet there is nothing really to criticise in the way the trader has gone about his task, merely a problem with the end (random) result. It is not being argued that the particular price achieved is random. It is a price that is struck as part of an informed decision-making process. What is random is whether that price represents Best Execution in the way we are being asked to consider it by European regulators. Under the SEC approach the focus would have been on whether the trader was doing all he reasonably could to stack the odds in his favour and create a record of so doing. This is an approach that fund managers will recognise because it is how they themselves try to get the best deal for the client.

For all the fuss that is made of commissions (high, low; hard, soft) the single largest constituent of a "good deal" for the client is the price. As such it is a key determinator of portfolio performance, and because of that fund managers have always taken notice of the quality of execution achieved. There are a variety of costs which can be incurred when trading: commission; spreads on principal and net trades; taxes and levies; the cost of finding liquidity; time-to-market costs; cost of information leaking out; and the cost associated with a lost opportunity to trade. Over the years practices have grown up to strike a balance between all those costs. Of particular delicacy is the need for a balance to be struck between "time sensitive" costs and "knowledge sensitive" costs. In a simple example, how many brokers should

a trader call? Calling just one may not give him a sufficient picture of the market in the stock; calling ten probably means that the market will move against him as news of his pending order reaches a wider audience. Should he stop calling after three, after five, after seven?

Market fragmentation has probably made the trader's life more difficult in the short term (even if there may be longer term benefits of competitiveness and innovation) because knowledge is more widely dispersed and it takes more time to canvas the entire possible demand for the order. Part of the problem with fragmentation is that you cannot merely add together all the alternative execution venues to get a picture of the market as a whole. Some venues are in actuality sub-sets of others. Yet others being relatively unregulated may be more prone to being unduly influenced by particular types of trade or participants.

Looking at this type of balancing act is difficult for regulators wedded to a results-only test because not all (if indeed any) of these costs are measurable on a slide rule. Many of these balances are struck on the basis of experience and judgement. Fund management companies have developed processes designed to achieve a high probability of capturing an investment decision and adding value to the portfolio but it is an approach that has evolved over time, is responsive to market conditions and configurations, and the validity of which can only be measured over time not in the "wham, bang, thank you ma'am" context of a single trade.

Unfortunately, many regulators still seem to live in a quantitative rather than a quantum universe. If it can be measured, they argue, then measure it. In the absence of a considered approach the thinking can run: if it can be measured then the measurement must have some significance and so let us use that measurement to determine whether or not a breach has occurred. Thus we have of times been drawn into a series of frankly irrelevant discussions as to what should be the benchmark price for deals. This assumes, at the risk of repetition, total knowledge and that all costs are objectively quantifiable (aside from the dauntingly long list of reasons why in a fragmented market place the notion of a single benchmark price is essentially prehistoric) not just ever, but objectively quantifiable prior to the trade being struck. The European approach is also alarmingly parochial. The Best Execution rule at the fund management company applies to all trades conducted for a client (subject to any opt-outs), but the markets in which trades are executed can be

very different. The speed at which information reaches the price publication service (if at all) of far flung markets will change the balance between screen-based and broker conversation based research. In less liquid markets the published price may be months out of date. Such variants will always undermine a simple "tick and bash" approach to Best Execution. The reality of the way in which the markets operate will almost always trip up any attempt to find a simple "one-size fits all" approach.

All that can be done by fund managers is to ensure that the probabilities are weighted as favourably as possible in favour of the client, and this is done through the design of procedures that eliminate the more unfavourable aspects of the transaction that are susceptible to management. Such procedures typically involve assessing differing execution venues for price quality, liquidity and accessibility; assessing and selecting trading counterparties on thoughtful criteria not just once but continuously; managing conflicts of interest (such as in soft dollar trades); and checking execution quality. Fund managers have created a variety of environment-moulding tools that champion the client's interest. Having appropriate discipline and protocols on the trading desk (large order limits etc) is also important in ensuring that the processes work well.

The absolutist (indeed Newtonian) approach taken by some European regulators is not only wrong in theory, in practice it does a disservice to investors. If Best Execution is a prospective statistical concept then measuring it by a purely result-oriented means does nothing to encourage the creation of systems and processes designed to get the best deal for the client. Over time the diligent fund manager should be able to demonstrate that his execution quality is good, but trade by trade the quantum nature of the problem means that good fortune can play an inappropriately large part. If the flight of the arrow will provide a random result the blindfolded archer is not at a disadvantage to his sighted rival. In other words the current approach penalises the responsible and rewards the lucky trader. All prizes go to the man with the black cat. Now, if only we had a box …

1 E.g. SEC Disclosure of Order Execution and Routing Practices 17CFR para 240.

2 AIMR Trade Management Guidelines issued for consultation 12 November 2001, available at http://www.aimr.com

3 ibid p4

Transaction costs analysis: how to achieve best execution

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From a long term perspective, portfolio managers scarcely beat their benchmarks. On top of this, as we are seeing more limited returns for investments in equities than we enjoyed in the late 90's, what will make a different performance among funds will be related to best execution and transaction costs, as no portfolio management or rebalancing can be achieved in a friction free environment. The following is mainly focused of monitoring and understanding the weight of unseen and unexpected costs on funds performance. It applies to equities as well as to fixed income trades.

Best execution is a much larger concept than transaction costs analysis. However, what is not best execution translates into additional and inappropriate costs for the funds, which generates poor performance and as such shall be evaluated using the best possible existing tools and methods.

Being a new and major matter of concern for the buy side industry, especially in continental Europe, «best execution» is however not precisely defined either by law or market consensus. The only regulatory authority which ruled on this matter is the SEC. It is usually admitted that through « best execution» a trader shall try to get the best possible price "in such a manner that the client's total costs or proceeds in each transaction is the most favourable under the circumstances" (SEC). As such, best execution is directly linked to a specific market situation at a given time, including quantitative market data (liquidity, volatility…) which implications shall be precisely assessed. They also depend on the appropriate means implemented by asset managers in order to execute trades and determine "whether the transaction represents the best qualitative execution" for the portfolio and "not the lowest possible commission" (SEC).

Since there is a move among asset managers and regulatory authorities to quantify best execution, institutions should carefully monitor their trading, because of the impact trading costs have on portfolio performance. There are several kinds of costs in portfolio management, with apparent costs such as custody and management fees, which represent roughly 1/3 of total transaction costs, while hidden costs such as and market impact and opportunity costs represent 2/3 of the total.

The trading costs are evaluated around 60 bp for trades on large caps in liquid markets, and a lot more on less liquid markets. However, trading costs are not always assessed, because they are considered as embedded in portfolio performance. But they are quantifiable, although no methodology or benchmark is perfect. It is even more important today as turnover has increased dramatically, while liquidity was shrinking.

"Best execution" is tightly linked to the process implemented in the asset management company in order to organize and execute asset allocation decision in financial markets. All regulations and market authorities (especially SEC) as well as best practice rules in this field point out that the trading process shall tend to minimize costs, and insure that relations with brokers are based on a fully transparent and arm's length principle.

How much is taken out of the assets of the fund to execute trades in the portfolio? How can the cost of execution create value for the fund, and how may it be measured? Transaction Cost Analysis should be integrated in the investment process, including a thorough and rigorous process for the selection of brokers, with orders are executed following a standard trading process, and a control on all transactions and their allocation to brokers.

In order to move forward, most advanced asset managers are already one step ahead as they already run a system to monitor in house or with consultants a precise measurement of the transactions executed on equities.

1. How to assess Transactions costs

There are two kinds of costs to consider when assessing the costs of transactions. They form an iceberg from which only the first apparent third has emerged, while the main two thirds are hidden.

Apparent costs or direct costs which can be precisely measured.

- Brokerages are fixed rates negotiated between brokers and asset manager for each product or country. But a whole range of services may carry different rates, with low commissions for easy agency trades to high bid-offer spreads for some risky principal trades.
- Taxes, depending on countries.
- Custody fees.

Hidden costs can be identified, even though they are difficult to assess precisely.

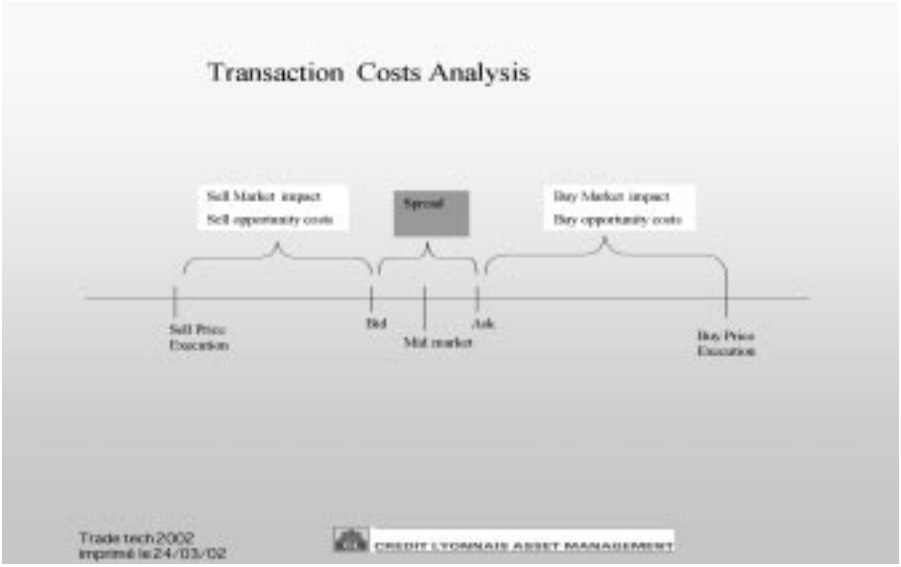

Figure 1 hidden costs

These costs are related to the price for liquidity: they usually show through the quoted bid/ask spread, as well as market impact and cost of opportunity. These parameters are all linked together (cf. fig 1), and while a clear line between all these factors remains tough to draw, it is however possible to study their respective part in the total trade cost.

a) The Bid Ask spread is the mostly known apparent part of the iceberg

Immediate liquidity creates risk of adverse move for market makers. This shows in the structure of the Bid/ask spread and is a function of the risk of market prices on inventory. It is supposed to include the costs associated with execution. In order to provide the market with liquidity, market makers are obliged to build inventories as only roughly 15 to 20 % of Buy and Sell orders naturally match.
It is as such of major importance to carefully monitor the structure of the market segment liquidity before entering in the implementation process.
What studies provides by Reuters and investment banks based on large database show are the following, which may be considered as valuable indications, but not rules:

- Bid/Ask spreads decline with market capitalization,
  - below 500 MEUR, the spread ranges from 50bp to 100bp and over.
  - above 10 000MEUR, the mean spread is between 10 and 50bp over 50 000 MEUR, it ranges from 5 to 20 bp.

- Bid/Ask spreads decline with the number of daily trades
  - below 10 daily trades, the average spread is over 100bp.
  - over 1000 daily trades, the spread ranges from 5 to 20 bp.

- Bid/Ask spreads Increases with volatility (1mth):
  - below 10 % volatility, spread is max 10bp, between 10 and 50below 50 bp.
  - the spread increases with the size of each order: it is a concave function of the size order.

- Two additional considerations may apply although they are more difficult to monitor:

  - Bid/Ask spread Increases with AM style: there are generally higher costs for growth/momentum managers versus value/mean reversion.
  - Difference between quoted and actual spreads: due to inventory management constraints, or market anticipations or informations, market makers may trade inside the quoted market spread.

- confirm correlations with a linear relation between market capitalization and daily volume, although wide variations may be monitored among countries (e.g. in Europe average of 61 bp in Sweden compared to 15 in Germany) and among sectors (e.g. in Europe, average of 17 bp for telecommunications, and 31 for materials).

b) Other Hidden costs are traditionally not monitored and assessed

- Market Impact:

  - what is at stake is the influence of the overall market momentum and the impact of the order itself on the price of the execution. As such, the market impact includes two components: market price and market momentum.

  - The slippage in the market price for the stock due to the additional order coming on top of the amount of securities to be traded on the stock to fully execute the trade. It is the difference between the initial price available when the broker received the order, and the price actually paid after the full completion of the execution by the broker. It is assessed for each stock.

    E.g.: if the market price is 10 for a stock Z, an additional buying order coming in and pushing the price up to 10.10 to be fully completed will have had an market impact of 1%. It shall be weighted by the overall momentum of the market. Indeed, in our example, if the overall market momentum during the period of execution is 1%, it basically means that the market impact due to the additional order on the related stock is neutral. But if the market did not move during the same period, the market impact should be evaluated at 1%.

  - In this regard, it is up to the asset management company to keep track of all historical market data related to the trade at the time of the execution, including the appropriate time stamp data. It basically means that without an OMS, there is no chance to implement a thorough transaction cost analysis.

- What is more difficult to assess, and remains a hidden cost, is the market impact due to brokers trading for their own account with information from fund orders, if such practice occurs, which should not be the case.

- Opportunity costs:

  - It includes delays in the transmission of orders to the market, the timing of the order which is due to the execution strategy, partial executions which generate the cost of not completing an order, and errors.

  - In order to estimate the implementation shortfall it is appropriate to compare the price of the security at the time the portfolio manager makes a decision to the price at the time the trader gives the order to the broker. It is defined as the difference between the price for execution and the price before the execution process starts. It captures the cost of opportunity of not completing the order.

c) Evaluation of the transaction process hidden costs

These costs excluding fees can be assessed in bp as follows (data from a European investment bank on a random sample of European trades): the market impact includes the price impact but excludes the market momentum, and the weighted average daily volume of each transaction represents 8% of the total volume for that stock on that day.

Country	Market impact	Shortfall	Total	Apparent Bid Ask spread
Germany	22	54	76	22
France	15	48	63	20
Sweden	51	57	108	36
Italy	46	6	52	19
Switzerland	46	13	59	16
UK	28	20	48	55
Spain	46	8	54	16
Average 14 countries	28	38	66	28

Average daily volume 8%. Average size of portfolios €25 M with 20 stocks

All surveys show that overall costs associated with execution are always underestimated, and very high. As an example, they represent up to 60bp for large cap in liquid markets (including broker commissions, taxes and custody fees). According to data provided by the main consultants specialising in this field (Elkins McSherry or Plexus) for such markets, the averages costs are as follows:

- commissions: 15 bp
- market impact: 27 bp
- opportunity and delays: 78 bp

Two additional factors will increase the cost of trading:

- one is related to portfolio turnover, due to managers decisions (managers style for growth or value, as well as portfolio rebalancing) or benchmark switches (new securities in or out generating turnover in proportion).
- depending on markets (emerging, small caps…), portfolios may bear costs up to 4 or 5 % on a yearly basis.

2. How to achieve best execution

Regarding apparent and direct costs

Brokerages : the fees paid by the funds to brokers are set by the asset management company at the same level for one country, and when possible for a group of countries within the same zone.
Taxes : the rate is set by public authority; depending on countries and the type of tax stamp, traders may minimize the cost of the tax with a proper strategy regarding the size of the order.

Regarding hidden costs: arbitrage between market impact management and opportunity costs

From a trading standpoint, the main difficult question to address regarding the implementation is the right balance between the desire to trade quickly in order to avoid opportunity costs and the desire to patiently wait for an appropriate price situation and market structure which will ensure a low market impact.

The proper way to achieve best execution is to conduct a pre trade analysis and have an in-house system model the costs associated with trading to determine the efficient trade frontier. After the trade is completed, the post trade analysis should compare the results to the initial estimation.

- **The goal of the Pre trade analysis** is to define which strategy is the best for achieving best execution, which venues should be used, and which broker. High costs trade should be determined on a pre trade basis in order to be properly managed. This estimate can be driven either through historical comparisons if adequate data is available which may not be the case for illiquid securities when an in-house model has to be used.

- **It should be done through a modelling process,** including several factors which drive the execution process, as follows:

    - market capitalization
    - daily trading volume
    - average order size
    - volatility of the stock which increases as a square root of time
    - correlation between securities in the list of orders

The evaluation cost process should help determine the impact and opportunity costs.

As optimizing market impact and opportunity costs management may require opposite decisions, the goal is to provide the best possible solution given circumstances. From a model perspective, the right solution is the one which sets the minimum costs for a constant level of risk, or sets for the same cost the lowest possible risk. As such, it should be possible to elaborate an Efficient Trade Frontier.

- **The strategy for implementing the investment decision will consist of making a choice between:**

  - Agency trading, where execution is a way for the buy side to pay for the services rendered by the sell side, including research and associated services and contacts with companies. Transactions shall result from an evaluation process involving all parties on the buy side, in order to direct to brokers a given amount of transactions. It is the manager's responsibility to define and implement the criteria and appropriate process for ensuring that "best execution" determines broker relationships. In such a situation, the broker acts on a best efforts basis, and does not commit capital to execute the trade at a given price or for a precise volume and schedule.

  - Principal: Execution is considered as a competitive business in itself, dissociated from the services paid to the sell side. The services are paid by third parties, or by the asset management company. The broker shall commit capital to execute trades for the funds at a given price or quantity, or within a certain schedule.

  - The other way for the buy side firm to execute trades is through the access to specific liquidity pools such as electronic crossing networks or local exchanges.

- **Post trade analysis provides comparison** with pre trade analysis, and details the hidden costs associated with execution. It is related to the decision regarding the selection of the best benchmark, which may be as follows:

- The initial focus of regulatory authorities such as the SEC was on the best bid and offer, which made sense when spreads were wide, but this is no longer the situation for large caps.

- VWAP, volume weighted average price is calculated by multiplying a stock transaction price by its share volume, adding all such transactions and dividing by the total shares traded. Statistics (Elkins McSherry) show that obtaining VWAP assures an above average execution level in the market. But, as VWAP should be specific to a certain time span, it is difficult to determine to appropriate period without generating new discrepancies, because if the period considered is too short, the VWAP may be generated by the order itself. But the main negative effect of VWAP is that it may be manipulated by the trader, seeking to beat the benchmark without creating value for the fund.
  Focusing on the sole average price may encourage traders to stick to it while due to the market momentum, the worst price of day D may be better than the best of D+1.The cost of opportunity for the portfolio would be huge.

- The implementation shortfall method, which states that the benchmark is the market price of the stock at the time trade to several days where the trade decision is transmitted to the trading desk. But as very often, an institutional order may require several days to be fulfilled, it is more appropriate to enlarge the time span for a proper evaluation of the cost of execution.

- **Cost of Opportunity and delays:**

  - Delays : in order to neutralize the effect of delays in the execution process, all orders are input and transmitted through the Order Management System. There are no delays between the portfolio manager and the trader and no delays between the trader and the broker unless they are part of the trading strategy. Funds are not penalized by late transmission of orders to the market, because the use of technology in the process does not allow for such delays.

  - Timing and strategy: for institutional orders, the benchmark used in the execution measurement process is relevant if it compares the trade

actually realized with what it would have been within a short time span of several days positioned ahead and after the trade : it compares the execution with the price action of the market a couple of days ago, and a couple of days after the trade.

- Errors, partial executions: Errors in the execution process are precisely monitored under the compliance officer scrutiny. They are taken out of the funds, so that the performance is not penalized and charged to the AM company itself.

  Partial executions are monitored by the compliance officer on a daily basis, and their cost is assessed within the measurement process, based upon the available price at the time of the transmission to the trading desk and the execution partially achieved over time.

5. Follow up, control and optimization of transaction costs analysis

- In order to be relevant the in house evaluation shall be driven on a real time basis. Traders will have in mind all the trades conditions, and may explain or take into account all parameters for future trading. The measurement of the costs associated with the execution of transactions requires ensuring the availability of all relevant data. As such, it is necessary to run an Order Management System for all trades with the appropriate database administration organization having homogeneous data.

- As costs of execution are tightly linked to the identity of the asset management company, depending on the kind of assets under management (invested in large caps, emerging…), the management style, the level of technology infused in the implementation process, it is very relevant to build an in-house model assessing the cost of transactions, especially on a pre trade basis.

- But it is also relevant to use market benchmarks as well as external consultants such as Elkinns McSherry and or Best Executive Comparison Service. First, as there is no perfect methodology for evaluating the cost of trading, it makes sense to use alternative measures, and compare their

results. It is also of major importance to be able to compare the data provided to other asset managers. One thing is to be clarified with the consultants: it is that they should get rid of data coming from trades executed on the sell side, because it may create strong discrepancies in the evaluation of the performance.

- Regarding clients requirements, it is better anyway to provide them with an independent analysis work conducted by an independent third party. What matters is precisely the kind of service or benchmark which investors requires for analyzing transaction costs. Data should concern orders allocated per country, funds, brokers, traders as well as asset managers.

- Even though there is no ideal methodology, several systems or benchmarks will probably show consistency, and it will be the main aim of the portfolio manager to enhance alpha using the data as an indicator, or a tool.

- It is always beneficial to the AM company to run such processes, as they are taken into account by consultants, as well as providing compliance officers with the appropriate report.

Transaction Costs and Trading Strategies

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Institutional investors are well aware that the efficiency of any investment strategy depends as much on the ability to forecast asset returns as on the capabilities to manage risk and limit costs. The numerous examples of strategies promising on paper whose returns vanished with the costs of actual implementation have encouraged many authors to work in the field of transaction costs.

The objective of this paper is to present the different components of transaction costs on equity markets and to study the effect of trading strategies on these costs.

I. Trading Costs: Definition and Breakdown

When pushing through a trade on the market, investors incur several costs. These costs can be either explicit or implicit. The explicit costs such as the brokerage fees and the various taxes that apply on transaction in some equity markets are most of the time easy to identify and can be measured ex-ante. Unlike those, the implicit costs, often described as the hidden part of an iceberg, are harder to measure and even more difficult to forecast. These implicit costs include the market impact and the timing costs: the market impact being the price movement caused by the lack of liquidity and the timing cost being caused by delays in execution. More precisely, the market impact is measured as the difference between the price at which the stock trade is executed and an objective price determined by the portfolio manager or the trader. The timing cost is defined as the difference between the price observed on the market when the decision to initiate the transaction is made and this objective price. Furthermore, when inadequate market depth permits only partial execution of orders, an opportunity cost could arise. Most of this paper will focus on the first two implicit costs.

The first issue is to come up with an acceptable and accurate definition of the implicit costs. Initially, one has to determine the objective price (the benchmark).

The definition of this benchmark is a complex issue as it clearly depends on the investor, her management style, her trading strategy… An interesting definition of this objective price is the price that would have been observed on the market at the target time (still to be defined) if the particular transaction studied had not occurred. Unfortunately, this very definition already shows how difficult its practical use can be since this virtual undisturbed price is by definition unobservable. One could also consider the closing price of the trade day as the fair price (post trade benchmark). Each measure has its advantages and drawbacks and actually corresponds to different trading strategies and their respective objectives. Unlike the post-trade benchmarks or the volume-weighted average price (VWAP), the pre-trade benchmarks (opening price, previous day closing price…) are not disrupted by the investor transactions. But one could argue that the VWAP is more accurate than the pre-trade benchmarks in determining the temporary variation caused by a liquidity shock.

In order to characterize better the two main components of the implicit costs of transaction, one could say that the market impact is a liquidity cost while the timing cost is linked to a delay in executing the trade. In the case of voluminous trades or insufficient depth, the prices can be pushed temporarily, generating a market impact. This cost can be avoided by splitting the order into several small orders or by delaying the execution at the price of timing cost. To delay the transaction can be profitable if the investor purchase in bear markets and sell in bull markets. In practice, the magnitude of this timing costs mostly results from the stock volatility. However, trades generated by an active manager are motivated by some type of information regarding the stocks traded and delays in trading should translate in penalizing timing costs. This remark leads to the notion that these costs will depend on the type of investors studied. A manager whose main source of alpha comes from short term corrections of stock prices will pay a lot of attention to the timing of its trade and will rather be exposed to market impact than to miss an opportunity. Investors who take position over longer horizon will rather minimize their entry cost even if it means taking market risk.

In what follows, we assume that all the orders were completed and therefore that the opportunity costs were always equal to zero. Consequently, the overall implicit costs are measured as the difference between the execution price and the price observed at the time of decision and do not involve any quantity gap such as the difference between the expected trade size and the size actually traded. The difference between the transaction price and the

decision price incorporates the price variation observed on the market between the time of the decision and the actual time of execution. This difference is clearly a timing issue and will correspond in the rest of the paper to the definition of the timing cost. One will also compute a measure of the market impact as the gap between the execution price and the objective price that depends on the trader motivations and the strategy selected.

II – Trading Strategies and Costs

In this section, we will focus on a couple of trading strategies that can be implemented. The objective is to provide some indication of which trading strategy is the most adapted to a given situation.

Although, one can imagine many ways of passing orders on the market, we will focus here on two kinds of execution techniques: Agency trading and Principal Trading. These two techniques do actually differ by the way the risk is shared by the two parties of the trade. In the first case, the investor is bearing all the risks associated with the trade, especially the timing risk and the market impact, while in principal trades, the market impact risk is transferred from the investor to the broker.

Agency trading is the most common strategy. The investor sends an order to the broker communicating the name and the quantity of the stocks involved in the trade. In most cases, the trades are then executed on the equity market with «careful discretion». The time needed for the execution depends on the order size and the liquidity of the stocks. Sometimes, agency trades are executed with an objective in terms of price. This target can be the VWAP of the trading day or a price at any given time of the trading hours like for example the market on close. Explicit incentives can be negotiated with the broker on the base of this target price. Generally, agency transactions are not very costly in terms of brokerage fee but, by definition, they expose the investor to market impact and timing costs.

In the case of a principal trade, only some parameters of the trade are sent to the broker before the transaction: principal amount, market direction, number of names, weight of each name in the basket, quantities relative to average volume, an indicator whether the stock belongs or not to an index. Equity names and quantities are unknown to the broker when the order is sent. The broker

commits to sell or buy these stocks at the prices observed on the market at a precise time decided by the two parties. The entire information on the trade such as stock names and number of shares traded for each name are only communicated to the broker after the specified reference time. In this type of transaction, the market impact is clearly transferred from the investor to the broker. Commissions will depend on the broker perception of these risks and are logically higher on average than for an agency trade as they do incorporate a market impact risk premium. This trading strategy is more adapted to trades on liquid baskets with a composition close to an index.

To summarise, these different trading strategies correspond to a trade-off between the level of brokerage and the market impact. The risk premium asked by the broker, the risk aversion of the investor and most of all an accurate forecast of the incurred risk should then be the most important parameters of the decision.

Some statistics

In a study done in 2001[1], We have measured the costs by trading strategies, for five countries (Belgium, Denmark, Finland, Italy and Sweden)[2], from October 1996 to October 1999 and for 16 developed countries during the period October 1999-October 2000.

As anticipated, we have found higher brokerage fees in the case of principal strategy. Furthermore, we have showed that total costs look higher for principal trades than for agency trades. However, if one assumes that timing costs represent some statistical noise rather than a structural phenomenon the results are different. We find that adjusted total cost (brokerage fees + market impact) are higher for agency trading in the first period (–0.29% Vs –0.21%) and are lower in the second one (–0.18% Vs –0.27%). Apparently, the results obtained in the first period correspond to a period of very aggressive pricing on the principal trades by brokerage houses willing to expand their market shares. This explanation given by the traders looks reasonable as the second period presents results more in line with what was expected: a slightly higher cost for the lower risk associated with a principal trade.

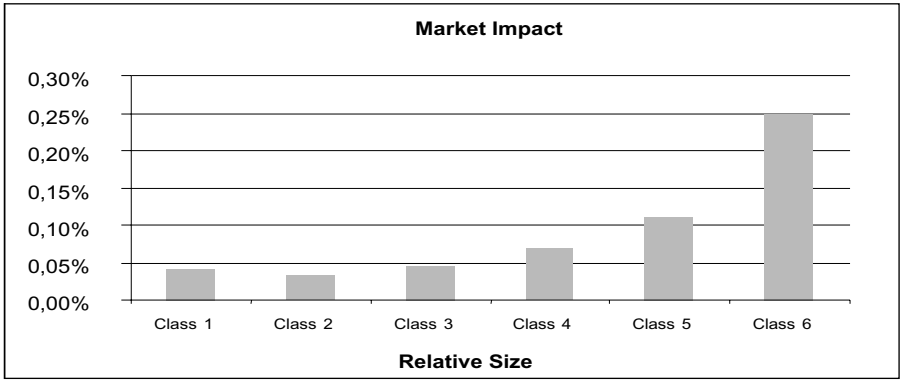
The two main types of strategies involve a trade-off between a flat known brokerage fee and the unknown market impact of the transaction. In electing to

enter a principal trade with its counterpart, the investor decides to pay a flat fee in order to be protected against the market impact. In the case of an agency trade the investor is willing to take on the uncertainty of the market impact in compensation of a lower brokerage cost. It is quite clear that this decision is going to depend on the difference of fees between an agency transaction and a principal trade. The fair level of this difference should be equal to a risk-adjusted market impact expectation. Leaving aside the complex issue of the risk adjustment that should apply, the first step in building a decision making tool is at least to estimate the potential market impact that the investor faces.

Liquidity and market impact

In this paragraph, we present some statistics regarding the market impact measured in our database of transactions.[3] We particularly focus on the influence of the transaction size and of the liquidity of stocks that are traded. These two variables are slightly different in nature as the first one depends on the specific transaction studied while the second one depends on the general trading conditions for the stocks traded.

Average Costs by Trade Relative Size



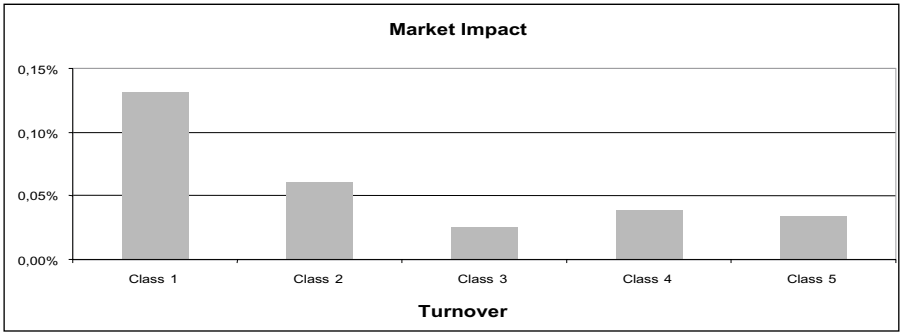
* The classes are defined as follows:
Class 1: Relative Size < 0.05%; Class 2: 0.05% =<Relative Size < 0.2%; Class 3: 0.2% =< Relative Size < 0.4%; Class 4: 0.4% =< Relative Size < 1%; Class 5: 1% =< Relative Size < 5%; Class 6: Relative Size >= 5%

As expected, the market impact increases as the order gets larger. Although not surprising, the convexity of the relation between size and market impact is quite

interesting. This result stresses the fact that to tap the liquidity of the market involves a cost but only above a certain level. As long as the trade is below a liquidity threshold that we measure around 1% of average daily volume there is no clear relation between market impact and trade size. However, once the trade size is above than this level, the market impact starts to increase at an always-higher marginal cost.

The second variable that has been studied is a more objective measure, as it does not depend on the transaction. The rationale here is to take into account the liquidity of the stocks regardless of the size of the trade. The idea being that for any given size of transaction the most liquid stocks will be less expensive to trade in terms of market impact. A natural candidate to measure this objective liquidity would be the free float of each stock. The higher the float, the higher the liquidity and therefore the lower the costs to trade in this liquidity. Unfortunately, reliable information on the float is not easy to gather. The variable chosen to reflect this objective liquidity is the turnover defined as the ratio of the average daily volume by the total number of shares outstanding.

Average Costs by Turnover*



* Share's Turnover = Average volume traded during the previous month / Number of shares outstanding. The classes of liquidity are defined as follows:
Class 1: Turnover < 0.019%; Class 2: 0.019% =<Turnover < 0.026%; Class 3: 0.026% =< Turnover < 0.034% Class 4: 0.034% =< Turnover < 0.046%; Class 5: Turnover >= 0.046%

The results obtained show the same type of behaviour than the former graph. It looks like the lack of liquidity starts to be expensive above a certain level and does not penalize below a certain level. The interpretation of the results above is that whatever the size of the trade, to transact on a less liquid stock (class 1) means a flat cost expectation of 10 basis point higher than for a trade on the most liquid stocks.

Conclusion

The objective of this article is twofold. The first goal is to define and to choose a method to breakdown the costs of transacting on equity markets. We especially pay attention to the split of these costs between explicit and implicit costs. The second goal is to provide some indications to investors on the best trading strategies to implement in a given situation. As the most important variable to make a proper decision is the market impact, we have studied how it varies with the size of the transaction and the overall liquidity of the stocks traded. This study has confirmed that the market impact increases with the order size and diminishes with the liquidity. These results are crucial to any investor choosing a trading strategy as the trade-off between market impact and brokerage fees can only be properly assured by taking into account the size of the trade and the liquidity of the stocks.

1 Boussema. M, Bueno. A & P. Sequier «Transaction Costs and trading Strategies : An Empirical Analysis on Global Equity Markets».

2 We chose the countries where the three types of execution (Principal, Agency and Agency with Objective Price) are used.

3 Transactions done by Sinopia Asset Management during the period 1999-2000

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Achieving best execution in "fragmented" European markets

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Asset managers are at the centre of an increasingly controversial debate over the quality and structure of European equity markets. In terms of regulatory policy, the debate takes the form of the review of the Investment Services Directive (ISD), where legislation on conduct of business rules, including best execution, and on market integrity, including post trade publication rules, is expected later this year following consultation by the European Commission. Many of these issues have already been addressed by harmonised rules on business conduct, regulated markets and Alternative Trading Systems (ATSs) drafted by the European securities regulators (CESR). And at a national level, developments such as the Myners Report in the UK have also served to focus attention on these crucial questions.

But perhaps even more important than these regulatory developments is the increasing commercial pressure on asset managers and brokers to deliver best execution and to control and minimise transaction costs. Combined with growing competition – and perhaps further consolidation – between the European stock exchanges, and with the ever more significant impact of technology on the secondary markets, this makes for interesting times for the whole range of market participants.

What is "best execution"?

Best execution, the holy grail for both brokers and asset managers, is a notoriously difficult concept to pin down. That both regulators and practitioners have difficulty in defining execution quality is a reflection that no one set of objectives applies to all.

Learning from both our broker and institutional investor clients, we recognise that the term "best execution" holds different qualities and definitions for

different market participants. Pension fund trustees may define "best execution" simply as the preservation of asset value; some investment managers may evaluate "best execution" as the reduction of commissions; others may determine success the implementation of their desired trading strategy as immediately as possible.

Whatever the definition, at the heart of best execution lie three key elements: *price improvement, immediacy* and *liquidity*. Whatever the ultimate goal of the investor, all three come into play, albeit to differing degrees. Price improvement is likely to be the priority for a passive index manager, with a lesser emphasis on immediacy and liquidity. But, an active, momentum investor such as a hedge fund manager probably values liquidity and immediacy over price improvement. With such varying emphases, it is, therefore, difficult not only for the investor and their intermediary to agree a single definition, but also for regulators to apply a single metric.

We suggest that a best execution policy should take the form of a process, or a more holistic framework, rather than of a rigid commercial or regulatory metric. Ideally, an asset manager should devise a trading strategy to maximise the chances of delivering maximum execution performance. Such a strategy would estimate the efficacy and costs of various implementation strategies before trading begins. It would also include an post-assessment of the actual versus estimated costs and use this information in a constant cycle of self-improvement. This is of course a utopian vision of the perfect asset manager (using the perfect broker!) and we readily admit that any execution strategy is easier to wish for than to implement.

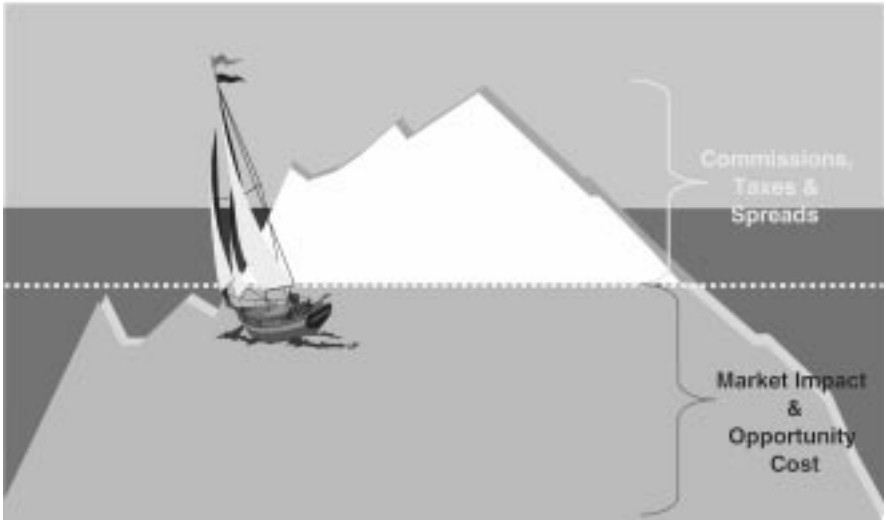
But significant progress can and should be made towards delivering an execution strategy. The key ingredients are a clear understanding of transaction costs and access to post-execution performance measurement tools. Let me deal briefly in turn with these two essential foundations before turning to the question of execution venues.

Demystifying trading costs

The belief that trading costs equate directly to execution commissions or to spreads paid on a "net" trade is a common, fundamental misconception. Rather, commissions, spreads, fees and taxes comprise merely the explicit

trading costs and are – quite literally – the tip of the trading cost iceberg. A strategy that focuses solely on managing these explicit costs is, therefore, no strategy at all!

The Cost of Trading "Iceberg"



What lurks beneath the surface is of huge importance. Impact costs are especially significant for asset managers trading in size, since, unfortunately for them, the story is not over once those difficult asset and stock allocation decisions have been made. As any asset manager or broker who has attempted to execute a large block trade can attest, successful execution is an art form. The execution remains in the domain of the streetwise broker, where information flow is king and the "irrational exuberance" and fierce rivalry of competing brokers and proprietary traders are a far cry from the calm clinical world of the stock analyst! One false move can see the market move against a large exposed position and can cost the asset manager dearly.

Opportunity costs of trading can also be significant. What if the manager's broker could not – for whatever reason – complete part of the order? If a pre-determined trading strategy is not completed, the opportunity cost resulting from that could prove expensive. Ask any asset manager whose broker has come back to them towards the end of the day, informed them that their

order remains uncompleted and that the market has now begun to move against them.

In summary, the iceberg lesson concludes that an understanding of trading techniques and costs is critical. Recognising that execution is an art form rather than a science is the first step to creating a sensible strategy. Choosing the right broker and the right execution venues is also critical. I will come to execution venues later, having first reassured all those clinical analysts who would like to impose order on the chaotic world of execution that all is not lost: there are transaction cost analytical tools available.

Measuring execution performance

There are a number of recognised benchmarks for measuring execution performance. These include comparing the trade price to the average open, high, low, closing price. A more complex comparison is with the volume weighted average price (VWAP). All of these are imperfect and have recognised merits and disadvantages. Effective trading research should therefore incorporate all of these and also engage wider industry analytics, such as Plexus, Abel Noser and Elkins McSherry, offering broker-by-broker and peer comparisons. Together all these methodologies will provide comprehensive measurement against the iceberg trading costs, namely measurement of market impact, opportunity costs plus the explicit costs of commissions, spreads, fees and taxes. Such trading cost analysis is becoming an increasingly important tool for the asset manager seeking to extract that extra millimetre of performance. It is no coincidence that following the Myners Report, asset managers are being courted assiduously by vendors of transaction cost analysis products.

Fragmented European execution venues

The choice of execution venue is relatively seldom discussed, but it is an important issue for execution performance, becoming all the more important in the context of regulatory discussions over the treatment of off-exchange trading and whether all execution should be mandated to be on-exchange. The backdrop of competition and consolidation between the exchanges also makes this an interesting issue. The main equity execution venues in Europe are the traditional national exchanges, which have adopted efficient electronic

trading systems based on the central limit order book (CLOB) model. (For the uninitiated, under a CLOB, users submit anonymous bids and offers, usually at set or "limit" prices, to a central order book accessible to all other users, who can then "hit" on bids and offers they want to accept.) The exchanges are the dominant liquidity pools in Europe but are mostly national exchanges and generally do not compete head-to-head with each other.

But all trading is not centralised on the national exchanges. Brokers can execute their client orders elsewhere – on a competing exchange, on an ATS, or by matching them with other clients' orders through internalisation. Substantial trading therefore takes place off the CLOBs in Europe (although in some markets these trades are conducted under exchange rules and reported to and published by the exchange) and as a result European markets are rather fragmented between both competing exchanges and between on and off-exchange trading.

This is not to criticise the CLOB model. The ability to trade anonymously using limit orders is very important. And having complete transparency of order flow and of post trade prices can greatly reduce the market impact and opportunity costs. But the CLOBs evidently do not always prove a viable execution venue for block trading. CLOB spreads can all too often be determined by small retail trades and can be quite volatile. Trading size under these conditions is counter-productive for institutional investors who, not surprisingly, often take their liquidity elsewhere. Use of a broker to work a block trade on a CLOB is therefore a sensible technique for asset managers to use.

The ability to trade off-exchange is also significant. This freedom, however, is questioned by some of the exchanges and some European regulators, who argue that all order flow should be centralised through the main national markets. Despite a lack of evidence to suggest off-exchange trading has any effect on the quality of the dominant central markets, they argue that off-order book transactions are indeed a threat to market integrity. They argue that technology has facilitated order matching by brokers and that this risks fragmenting markets, which may further damage market integrity and liquidity.

Brokers would generally reject the thesis that fragmented or competing trading venues are damaging. Technology allows brokers to offer their clients

access to a virtually integrated market uniting prices from a variety of execution venues, including competing exchanges. Furthermore, brokers are increasingly able to offer smart execution services that will automatically select the best price for the client from a range of options. Exchanges should compete both with one another and non-exchange venues to provide the best prices and liquidity to investors.

The regulators nevertheless appear determined to act. CESR has proposed additional regulation for ATSs, defined as brokers offering multilateral order matching functionality. The rationale behind the paper is not entirely clear, since ATS activity by agency brokers and crossing systems is pretty small in Europe compared to off-exchange trading by market makers, who are not caught by the definition. The European Commission, however, seems inclined to act to catch all off-exchange activity. In its recent consultation paper on the ISD, it suggests that additional regulation be applied to both ATSs and to internalisation by market makers. Pre and post-trade transparency rules, as well as new conflicts of interest requirements would be introduced in an attempt to level the playing field with the exchanges.

This is an important issue for the asset managers, whose ability to trade off-exchange seems to be being challenged. At the very least, Europe needs a proper debate on whether off-exchange trading has any detrimental side effects. We also frankly need to think through the implications of having monopolistic exchanges reinforced by regulation that mandates centralised order flow. Given the fact that technology allows users immediate access to pre and post-trade price information from a range of venues; that technology also allows that information to be aggregated; that smart routing allows automatic smart execution, and that execution performance measurement tools enable the investor rationally to improve the efficiency of the venues – what exactly are the regulators worried about?

Orders Execution – Emergence of a new added value: concerns, from regulator to operator

Amaury de Ternay
Head of Trading, BNP Paribas Asset Management

Four subjects are at the heart of current discussions on the market, they all concern execution:

- **Best execution**
- **Good execution**
- **Transaction cost analysis**
- **Remuneration**

From a conceptual and regulatory subject they evolve into an operational subject, each one determining the following:

- All these subjects are connected with the processing function costs linked to implementing the management decision (brokerage, market impact, opportunity cost).
- These costs are on average 2%, they go from 1 to 15% of the value of the type of investment, according to the liquidity class and size of the stock exchange orders generated.
- Also to be borne in mind are the capital amounts involved for the Asset Management industry, and above all potential performance differentials between managements.

Execution can be described as being the tactical part of the management decision, making the best use of information on flow and market psychology

– the strategic part being linked to the economic and financial aspects of the investment.

In principle there are two possible kinds of execution – apart from tactical fine-tuning: active and passive orders.

- An active order corresponds to the manager's decision to amend exposure. The tactical part (Execution) serves to minimise market impact and maximise yield from the decision (Alpha).

- A passive order is an adjustment made necessary by a change in the benchmark, repurchase, subscription, or an adjustment connected with cash level. The tactical part is used to minimise the divergence between the fund and its benchmark – Tracking.

- In the first case (active), the benchmark is the pre-trade price (price at the moment of the order's departure), eventually corrected by the effects of the market tendency.

  The manager chooses to buy or sell, among other things, according to the value of the security at the moment of decision. Correction is used to avoid too optimistic an assessment if the Portfolio Manager is contrarian or too pessimistic if he is trend-follower. (The Plexus transaction analysis society measures the style of the manager by reviewing the ten days preceding the order.)

- In the second (passive) case, the benchmark is the method of calculating the valuation of the fund (For a neutral decision, in particular at the moment of subscription or redemption; it is necessary to disburse what the bearer pays or pay what is received from the market. This can be an opening or closure price or any other method used.) To be able to make the measurement it is necessary to supply the service providers with complete data files.

  During this discussion the question will be raised from the point of view of the Asset Management company and its clients.

Best Execution

Best execution is subject of regulatory definition on all the major markets. These definitions are intended to protect the final customer and ensure standard processing of orders in order to avoid that these orders, in the best of cases, are treated without due diligence, or in the worst, as sources of hidden income for some operators. (Volatility and the difficulty on some markets of collecting information on prices can lead to very variable price quality.)

To start with, the best execution definitions particularly cover retail orders. These orders can easily be absorbed by the market; the object is the protection of the non-professional operator.

In this case, speed requirements were the first to be introduced:

"…as rapidly as possible…" Belgium
"… without delay…" Finland
"… as fast as possible…" Netherlands

This enables clients to obtain information on the conditions which will be applied to them, while keeping the time taken for the collection of this information as short as possible.

It being impossible immediately to process orders on an institutional scale without violently shifting prices in one direction or another, has led to other requirements:

"… best conditions of market feasibility…" Portugal
"… best net price considering all the relevant circumstance…" USA

In all cases in point, this is the concern to ensure the best diligence and ad hoc means are made available for execution.

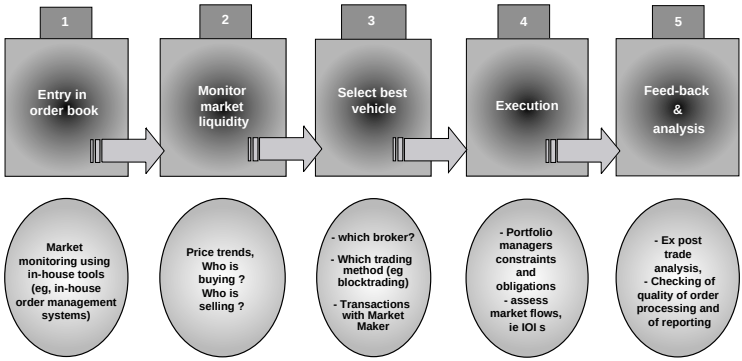
Response to best execution requirements is, indeed, an organisational subject. A definite and auditable process has to be introduced to ensure both comprehension and transparency in the order execution phase.

To do this, structures have been changed, investment companies have introduced "Trading departments" which respond to the questions raised: separation between generating and executing orders. The aim is the best possible compliance response and choosing market operators who combine both technical mastery and have time available.

Managers, often coming from the analyst profession, do not necessarily have technical experience and above all, taking into account their numerous tasks, do not have the time for a market which requires constant surveillance and the ability to react immediately at the time of execution (200% increase in volatility over the last five years, 500% increase in volumes during the same period).

Making the best use of the process, also has to make the transition through a continuous information technology circuit: the STP – Straight Through Processing. The idea is to maximise continuity of the order chain and supervision in order to minimise mechanical costs – error, too long transmission time…

Best Execution



Once the method and traceability is ensured – obligation to possess means – management has satisfied the regulatory and compliance part of its obligation and is placed in an ideal position to concentrate on added quality of the process.

Good execution

Good execution is the quality concept. It does not involve regulatory or ethical obligations, but commercial imperatives, bad results in general chasing away clients…

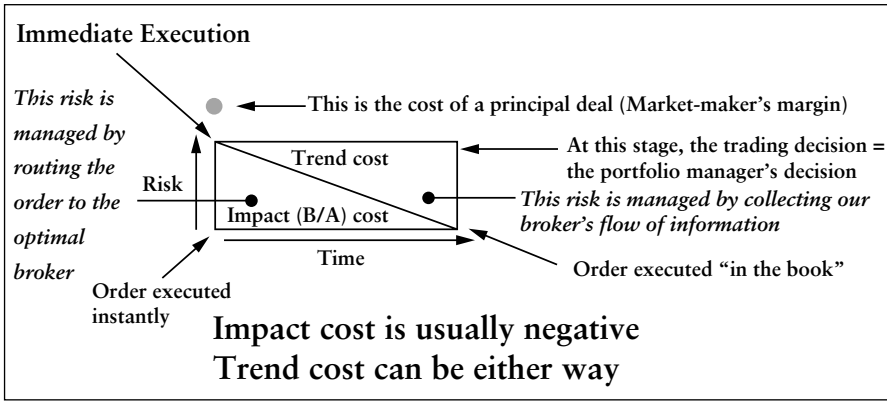
Negotiation is an integral part of the investment process:

- In passive management bad execution increases the tracking error,
- In active management, bad execution decreases the alpha.

Good execution depends on efficiency:

- Capacity to analyse market conditions (liquidity, volatility…),
- Capacity to concentrate information, therefore maintaining a strong information network (broker list),
- Capacity to avoid over-burdening a market, not allowing competitors to get a step ahead (minimizing the foot print).

The components for making the most of execution can be summarised in the following pattern:



Good execution becomes important for all those involved: consultants, who two years ago only cast a casual glance on the negotiation part, are now introducing a barrage of questions on the added value of the tables. In USA some mandates are written following assessment on trading performance.

In addition it is above all the measurement itself of the execution quality, which is becoming a subject of interest and major discussion on the market, a large number of operators participating.

Transaction Cost Analysis

The TCA is the subject of a large number of meetings, seminars and also the development of a number of initiatives.
(Independent auditors: Plexus – GSCS – ElkinsMcSherry – TAG… Brokerage companies offering their pre and post-trade analysis models, proprietary calculations by a few management companies…)

It is useful to frame the subject, which sometimes takes surprising directions (VWAP – OHLC).

The transaction cost comprises two, even three components

- Brokerage and commissions
- Market impact
- Eventual opportunity costs

Brokerage and commissions are explicit. They are the expression of the purchasing power of management companies which by concentrating orders have a central purchasing agent function.

Impact measurement as such does not concern brokerage and commissions, in particular because these are a part of the cost which is not a performance reserve but rather the reward of added value and purchasing power. (Lower commission doesn't have to be integrated in performance as such.)

The needs being initially expressed in the USA, the establishments and methods for measurement purposes used are strongly conditioned by the constraints of markets of the American and British type:

- Price driven markets,
- lack or absence of information on the depth of the market,
- parasitical practices: possibility of dealing on several exchanges, late posting – possibility of delaying the transactions' announcement…

Some comments on these methods are interesting: analysis of the "management style" by Plexus for example, i.e. the trend at the moment of the passing of the order. It enables a distinction to be made between the contrarian and trendy orders.

Having said this, most current analyses remain primitive, or tainted with construction vices:

OHLC (Open High Low Close), i.e. this median price that can be gamed : keeping a substantial part of the order for the final price…

VWAP (Average Weighted Price): this is not a measurement, the execution itself determines the average weighted price; considering the VWAP as the benchmark is therefore a mathematical nonsense.

But above all it does not show anything: the VWAP being seen as representing the market, using it as the equivalent of passing an order at any price on a fixing market (if the price obtained is x% more expensive than the reality of the market because the competing players have taken advantage of it, then there would be no awareness of the fact…)

An analogy, it is as if a sailor in a race happily follows the direction of the wind instead of the course for the race…

The system is nonetheless boldly defended by operators handling large volumes: since they define the direction of the wind, they are comparing themselves with themselves… cynical, but practical…

In reality, the market's impact has two dimensions, one absolute, the other relative.

- **The absolute dimension is also called slippage** by futures fund managers. It is simply the difference between the price of the type of investment on which the

decision is based (the pre-trade price is often used, market price at the time of the passage of the order) and the execution price properly speaking.

Mathematically and factually speaking, this difference diminishes the alpha sought by the management in the strategic decision (or increases it, but less often…). **It is the gross market impact.**

If X is the price at the moment of passing an order and Y is the execution price, the slippage "s" is: s = Y – X.

By way of illustration, if a manager anticipates a 10% performance on the investment in a security valued at 100 and the trading desk has executed the order at 101 according to market constraints, the anticipated alpha is reduced to less than 9%…

- **The relative dimension is the difference between the anticipation of the friction cost and the actual slippage.**

In this case, in the calculation, an anticipation is made of the friction cost (statistically or by extrapolation from the trend) i.e., dX

There are four schools of thought for the calculation of the dX:

- comparison with former data extracted from a database of executions carried out,
- formula based on analysis of liquidity and volatility
- extrapolation of the past trend over a period equivalent to the theoretical time the execution will take;
- option valuation of the asymmetric risk constituting an order (a purchase for example generates an implicit put option.)

For a purchase, the quality of execution q will be: q = dX – s

By way of illustration, if one thinks ex ante that the handling cost of our investment above will be 1% and the trading desk purchases at 100.8, the quality contribution of the execution will be twenty cents.

- **This measurement is the only possible measurement for the quality of execution.**

It is evident that it can only be valid for the analysis of a relatively large sample of negotiations.

The measurement being relative, it does not demonstrate the quality of an isolated execution, but rather a mass of executions. The size of the sample reduces the hazards of individual calculations. We are confronted with a statistical problem and not an individually objective calculation.

For the moment, this approach is scarcely used and is still not the subject of market consensus for the following reasons:

- Incomplete user databases – it is necessary to have complete files, containing all the characteristics of the order, in particular all the time-sequences in order really to be able to analyse the order and its constraints.
- *Ex ante* assessment formula of the cost of handling still inaccurate and subject to discussion.

The current diversity of quotation methods (markets driven by orders/prices, all with a dissimilar level of transparency and publication) and the absence of sufficient documented background data and also the calculation problems encountered by analysis institutes (power of calculation, taking into account constraints) partially explains the market's technical backwardness by comparison with the desire to quantify the quality of execution.

The capacity to process stock exchange statistics is speeding up. Also markets are converging towards an electronic order driven model. It is therefore conceivable that within two years a standard for calculating an ex ante benchmark will emerge. It will enable the added (or subtracted) value of an execution to be assessed. For the final customers it will provide the justification for the remuneration of this added value.

It is noticeable that some executions are already systematically measurable: these are formal executions, index re-balancing, benchmark change and any other purely "passive management" order. It is easier to measure the impact on tracking than on the alpha! They are measured by calculating the gap between the target price TP (price used for the valuation of the fund) and the price really obtained.

$$q = Y - TP$$

For example, if the target is the closure price, let us say 105, and the execution price is 104.4, the trading will have contributed 40 cents.

Having said this, "passive" executions generate some "noise" needing attention:

Management is the taking of a decision. Taking a decision, is a differentiation by comparison with a neutral situation. The neutral situation is the benchmark, its systematic application is the index fund.
For a manager to be able to say that he manages, he must be able not to manage. Not to manage is simply complying with the benchmark, **not investing at the time of a subscription is, on a contrary, a DECISION.**

If the fund uses a bad price when making subscriptions/repurchases (1) the fund's performance is going to deviate from the benchmark by the amount of the pricing error multiplied by the net flow.

If investors manage their subscriptions/purchases because they understand the direction of the pricing error, or if the net flows are negatively correlated with the pricing error for other reasons (2) the fund will under-perform its benchmark

In (1) it is a question affecting

- multi time-zone funds

Valuation, with a time shift in relation to movements of the leading market, (usually the US market): if the valuation uses the day's closure, and if the US market has strongly fallen, the Japanese part will not have taken this fall into account and repurchases will be made above the value which the manager will be able to extract

- and small cap funds

Securities strongly lacking liquidity, for which the quotation, the last representative prices, do not match the market's reality: if a security is not quoted for two days, but the market falls, the price will not have been

systematically altered, and the repurchase will, for example, occur above the real portfolio value.

In (2) **it is a failure to master the subscription/redemption information in accordance with the moment of calculating the valuation price** (a), and/or **calculation of the valuation on a reference impossible to match** (b) essentially for reasons of liquidity and essentially owing to the French passion: the opening price.

In (a) **failure to master**, the valuation will already have been calculated when the manager receives the information, classically he will receive subscriptions in a market with an upward trend and will therefore have to make the subsequent purchase above the value of the market used for the valuation.

In (b) **non-matching**, the trading will not be able to execute the entirety of a "neutral" order, and therefore the fund will be subject to market risk for all or part of an order not intended to bear any.

What is therefore needed is a procedure for mastering subscription/redemption (price unknown), using a tracking tool for securities which are not quoted in step with the market and the systematic bringing into action of the fair value committee in the cases noted.

As, however, a part of the liquidity risk on the market will remain, it is necessary to keep control over the entry/exit fees: they constitute the manager's insurance premium, all that is necessary is to calculate the value of this premium (as one calculates the value of an option).

Impact of execution can therefore exceed the simple transaction cost.

However, the development of buy-side trading makes it an entirely tactical instrument going beyond market concerns and assuming a transversal dimension in asset management company.

The new sources of added value create costs which have to be paid for.

Remuneration

One of the major concerns of regulators is transparency (the final clients' identification and comprehension of the payment for execution).

The Myners report has been much talked about in Europe. It was strongly conditioned by the characteristics of the English market, a price-driven market, where double, even triple payments can co-exist – brokerage, difference in price, soft commission… – thereby making payment completely confusing and leaving clients in entirely legitimate doubt as to the real expenses involved. And also their justification in terms of added value.

In this instance, we will only talk about the part of the expenses covering transactions. (The Americans and the British are thinking about segregating transaction fee, (data easy to calculate analytically) with the payment for research; it is called unbundling but is outside the scope of this article.

The combination of an objective calculation, even if a statistical one, and identified, negotiable and justifiable invoicing, as defined by the COB (French Stock Exchange Committee) in '97-03 (movement commission) provides a much clearer response to the question: trustee, advised of the applied fee, will be able in due course to measure the impact by comparison with what the negotiation provided.

At the same time, the management company can be paid for two products: its function as a purchasing centre (as in industry, or the retail distribution, the capacity to concentrate orders is the result of commercial success and gives the right to a commercial margin) and secondly the value it added in execution, which is added to the value of strategic investment decisions.

The strategic decision remains remunerated by fixed and variable management commissions; the tactical implementation, which can be a major competitive differentiation being paid for by means of movement commission, i.e. invoicing transaction defined ex ante, while remaining revisable at prescribed expiry dates.

This invoicing can only be variable by its nature and its implications: the costs and risks (i.e error) are effectively in proportion to the amount of capital handled at the time of the executions.

It remains to analytically identify the fees in the asset management company so it cannot be suspected of churning incentives (rotation of assets to produce commissions.) The strategic component (Portfolio managers) must therefore be excluded from any bonus indexed on movement commission. It must be part of the internal rules of procedure of the asset management company.

We therefore have everything buttoned up: at the practical level, AM companies are remunerated for a measured performance. Optimisation of this performance is generated by trading methods which are carried out according to a visible and professional process.

For some time there will be muttering over the implementation of this reasoning. However technological change, accompanied by pressure from regulators and insistence on commercial quality, will in the short-term – two years – lead to the emergence of transparency in the field execution.

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Best Execution and Competition between Trading Venues

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1 Introduction

In most cases, individuals hire agents (e.g. brokers or dealers) to buy or sell securities on their behalf. This occurs for a variety of reasons. For instance many private customers are not willing to subscribe to data vendors to obtain information on securities prices in real time. Furthermore they often lack the time and/or the expertise required for trading securities. This delegation of the handling of their trades by individuals raises an agency problem since there is no certainty that their agent will carry out their desired transactions in the most efficient way.

European and U.S regulators recognize this problem and have developed guidelines and regulations governing the relationships between investors and financial intermediaries. In most cases, they require brokers-dealers to provide best execution to their customers, that is to act in their clients' best interest. For instance, according to the SEC[1]:

> *"the duty of best execution requires a broker-dealer to seek the most favorable terms reasonably available under the circumstances for a customer's transaction".*

In the same spirit, Nasdaq requires its members to

> *"[...] use reasonable diligence to ascertain the best inter-dealer market for the subject security and buy or sell in such market so that the resultant price to the customer is as favorable as possible under prevailing market conditions."*

Thus the obligation of best execution requires brokers-dealers to minimize their client's trading costs.

Brokers do not necessarily have an incentive to do so, however. First, providing efficient execution is costly. For instance, in many cases, a security trades in several

[1]Order Execution Obligations, September 6, 1996, SEC Release N°34-37619A, 60, pg.171.

trading venues. For instance in the U.S, a security can be traded both on Nasdaq and in various ECNs' such as Instinet or Archipelago. In Germany, orders can be routed to Xetra (an electronic limit order book) or to the floor of the Frankfurt Stock Exchange. In principle brokers must review the different trading venues for a security to determine which market minimizes the trading costs for a given order. This review consumes time and resources since it requires to have access and to monitor the different trading platforms.

Second, there are various market practices which create direct conflict of interests between financial intermediaries and their clients. In some futures markets, for instance, brokers can trade both for their own account or for their customers (so called dual-trading). Sarkar and Wu (2000) empirically study transactions in the S&P500 index futures of the Chicago Mercantile Exchange. They find that floor brokers who actively engage in dual-trading obtain better execution for their own trades than for their customers, controlling for the difficulty of the trades. One explanation for this result is that dual-traders exercise less care when they act as principals than when they act as agents. In equity markets, payment-for-the order flow and internalization can reduce a broker's incentive to search for the best price.

The design of best execution policy and its enforcement are of considerable interest for practitioners, Exchanges and regulators. It is a long lasting debate in the U.S and it starts being an issue in Europe (see for instance the recent discussion paper by the Financial Services Authority (FSA) in the U.K.). This debate has many facets. It raises questions on the measurement of trading costs, optimal trading strategies, the design of trading rules, the desirability of trading practices such as payment-for-the order flow etc...

In this note, I analyze some of the problems associated with the notion and the enforcement of best execution using a very stylised model. The model aims at capturing in the simplest possible way the agency problem that I just outlined. It only

offers a very partial view of the issues associated with best execution.[2] However, it yields an interesting insight which (to my knowledge) has not been mentioned by previous commentators. There is a complementarity between the enforcement of best execution and the intensity of competition between trading venues. More specifically, a best execution policy is needed if various trading venues actively compete for the order flow. But in turn, such competition is likely to appear only if best execution is strictly enforced.

Three policy implications emerge from the analysis: (1) the definition of best execution with respect to a benchmark price is not likely to solve the agency problem between investors and their brokers, (2) the claim that a best execution policy is not needed because opportunities for price improvements are rare is likely to be self-fulfilling and (3) consolidation of quotes and data across trading venues can be necessary to achieve a level of competition which justifies a best execution policy.

For brevity, I do not provide the proofs of the few mathematical results which appear in the paper but they can be obtained upon request.

2 A simple model

A broker must trade Q shares of a security on behalf of an investor. The broker's fee is denoted F. She can choose to route the order to one of two different trading venues N and E. For instance N is the Nasdaq and E is an ECN. Or N is SETS and E is Tradepoint.[3] As the broker routinely trades in market N, she monitors the quotes in this market in priority. The quotes prevailing in Market N at the time of the order receipt are such that the trading cost for Q shares of the security is TC_N. The broker

[2]For a more exhaustive discussion, see Macey and O'Hara (1997) and the FSA discussion paper on Best Execution, April 2001.

[3]SETS is an electronic limit order book for the most actively traded stocks listed on the London Stock Exchange (LSE). SETS is owned by the LSE. Tradepoint is an electronic limit order book set up in 1995. This exchange competes with SETS and merged with the Swiss Exchange in 2001. To date, its market share in British stocks remain small (see Board and Well (2000)).

can also monitor the cost in Market E but this requires additional resources (time, effort etc...). I denote by C the additional cost incurred by the broker for assessing the cost of trading Q shares in market E. The trading cost for Q shares in market E is not necessarily smaller than the trading cost in market N. This occurs with probability $\theta > 0$. For simplicity, I assume that the trading cost in E can be:

$$\widetilde{TC}_E = TC_N - I \text{ with probability } \theta, \text{or}$$
$$\widetilde{TC}_E \geq TC_N \text{ with probability } 1 - \theta$$

The variable θ can be seen as a measure of the competitiveness of market E. For instance, in practice, it can be measured by the percentage of time Market E offers better quotes than Market N. For the moment I take this probability as given. Later, I will explain how it can depend on best execution policy. If the broker inspects the trading cost in market E and discovers that it is lower, then she routes the order to market E. Otherwise she routes the order to Market N.[4]

If the broker monitors the two markets, the investor trades at the best possible price. The investor's expected trading costs in this case is

$$TC_{\min} = E(Min\{\widetilde{TC}_E, TC_N\}) = \theta(TC_N - I) + (1-\theta)TC_N = TC_N - \theta I.$$

The broker has no "natural" incentive to search for the best price (the smallest trading cost), however. In order to economize on monitoring costs, she prefers to systematically direct the investor's order to market N. In this case, the investor's expected is trading cost is TC_N,which is stricly larger than $TC_{\min}$.

The role of a policy on best execution is to overcome this incentive problem. A simple encouragement to search for the best possible price is not sufficient, however. If the broker is not penalized for not providing best execution, then she will not look for the best price since this is costly.

I assume that a regulatory agency, R is in charge of designing and enforcing the rules regarding brokers' fiduciary obligations. This agency can audit the quality

[4]When the trading costs in the two markets are equal, the broker trades in Market N as well. In this case the broker may choose one of the two trading venues randomly. This would not affect my findings qualitatively.

of execution provided by the broker and fine her if she violates the best execution obligation. This happens when the broker sends the order to the main market (N) and yet the trading cost are lower in market E. Actually, in our model, this is the only case in which the broker's negligence can be proved. The cost of an audit is L and the fine paid by the broker if she is convicted is $P \leq L$. As I consider a single order, these costs must be interpreted as being *per capita* or *per trade*.[5] The enforcement policy is characterized by the probability λ with which the regulator decides to audit the broker. Below I will determine the optimal enforcement policy.

Now I analyze the broker's optimal behavior for a given enforcement policy. The broker's objective is to maximize her expected profit. If the broker does not search for the best price, she pockets the commission and takes the risk of being convicted. This happens with probability $\lambda\theta$. In this case the broker's expected profit is

$$F - \lambda\theta P.$$

If the broker searches for the best price, she incurs a cost C but she cannot be accused of neglecting the investor's best interests. Her expected profit in this case is

$$F - C.$$

Hence, the broker will choose to search for the best price if and only if

$$F - \lambda\theta P < F - C$$

or

$$C < \lambda\theta P \qquad (1)$$

As explained previously, the broker will search for the best price only if the best execution duty is enforced (that is if $\lambda > 0$). Observe also, that once best execution

[5]In practice, compliance with best execution policy is not determined on the basis of a single trade but over several transactions.

policy is enforced, the broker's incentive to monitor the two markets increases with the likelihood of finding a better price in market E.

Now I consider the optimal behavior of the regulatory agency. In reality the regulator does not know the exact value of monitoring costs for a broker. For simplicity, C is assumed to have a uniform distribution on $[0, \overline{C}]$, where $\overline{C} \geq P$.[6] The probability of not shirking for the broker is denoted ϕ. Using Eq.(1), I find that this probability is

$$\phi(\lambda, \theta) = \Pr ob(C < \lambda\theta P) = \frac{\lambda\theta P}{\overline{C}} < 1.$$

Notice that the regulator bears some cost in case of investigation. Part of these costs will be covered by the fine paid by the broker if she is convicted. The residual however must be financed by the investor. In practice, investors often pay transaction taxes to finance regulatory activities.[7] Let t be the regulator's tax (per trade). As the regulator's budget must be balanced on average, the regulator's tax is the average cost of a given enforcement policy, net of the expected penalties:

$$t(\lambda, \phi) = \lambda(L - \theta(1 - \phi)P).$$

The regulator's objective is to find the enforcement policy which minimizes the investors' total expected cost (*including taxes*). Formally, the regulator's objective is

$$Min_{\lambda} \ (\phi(\lambda, \theta)TC_{\min} + (1 - \phi(\lambda, \theta))TC_N) + t(\lambda, \phi) = (TC_N - \phi(\lambda, \theta)\theta I) + t(\lambda, \phi).$$

The first term is the investor's expected trading cost. Observe that the expected trading cost decreases with λ. Actually, when the probability of an audit increases, the probability that the broker will monitor the two markets (ϕ) enlarges and the investor is more likely to be executed at the best possible price. This is the *benefit* of strengthening the enforcement of best execution. Conducting an audit is costly,

[6] This last assumption is for technical convenience and simplifies the computations. A more general model would allow the regulator to choose both the fine P and the frequency of investigations,λ.

[7] For instance, on the NYSE, investors pay a transaction tax of \$0.03 per \$1000. This tax is then transferred by the NYSE to the SEC.

however and ultimately the auditing cost is passed on to the investors. Thus the *cost* of strengthening the enforcement of best execution is that it raises the transaction tax levied on the investor (t increases with λ).

The solution to the previous problem is

$$\lambda^*(\theta) = Min\{Max\{0, \frac{I}{2P} - \frac{(L-\theta P)\overline{C}}{2(\theta P)^2}\}, 1\} \qquad (2)$$

The properties of the optimal enforcement policy are intuitive. For instance, the optimal frequency of investigations, $\lambda^*(\theta)$, decreases with the size of the auditing cost (L) and it increases with the competitiveness of market E (θ). Actually the expected reduction in trading costs if the broker searches for the best price increases with θ. Therefore, the marginal benefit associated with a more stringent enforcement policy is larger.

This result suggests interesting interactions between the enforcement of best execution and the intensity of competition between trading venues. An increase in the competitiveness of Market E leads the regulator to choose a stricter enforcement of best execution. I argue below that in turn a stricter enforcement of best execution fosters competition between trading venues leading to a *virtuous circle*. To make this point, I analyze in more details the behavior of the liquidity providers (dealers or limit order traders) in Market E.

I make the following assumptions. First the trading costs borne by the investor are profits for the liquidity providers.[8] Second, the cost of providing liquidity in Market E increases with θ. For instance, quoting tighter spreads oblige liquidity providers to monitor more closely their quotes.[9] In order to obtain explicit solutions, I assume that the cost of providing liquidity is

[8]This is just for simplicity. Conclusions are unchanged if liquidity providers only capture a fraction of the trading costs borne by investors as profits.

[9]Foucault, Roëll and Sandas (2002) provide the theoretical underpinnings for this assumption. They study a model of market-making in which dealers choose the intensity with which they monitor their quotes. They find that monitoring is more intense when posted spreads are smaller. This leads to larger monitoring costs for the dealers.

$$C(\theta) = \frac{\kappa\theta^3}{3}$$

Finally, in making their decisions, liquidity providers in Market E take as given the decisions of the broker and the regulatory agency.

Liquidity providers in Market E chooses the frequency with which they improve upon the quotes in Market N so as to maximize their total expected profits. That is, θ solves

$$Max_\theta \ \phi\theta(TC_N - I) - C(\theta)$$

The first term represents liquidity providers' expected profit gross of the cost $C(\theta)$. If they receive an order, liquidity providers book an aggregate expected profit of $(TC_N - I)$. A necessary condition for Market E to receive an order from the broker is that the latter monitors this market. This occurs with probability ϕ. This explains why liquidity providers's expected profit increases with this probability. Furthermore if the broker monitors the two markets, she will route her order to Market E only if trading costs are smaller in this market. This happens with probability θ. The solution to the previous problem is

$$\theta^* = Min\{\sqrt{\phi\frac{(TC_N - I)}{\kappa}}, 1\} \qquad (3)$$

Observe that Market E becomes more competitive (θ^* increases) when the probability of receiving an order from the broker (ϕ) enlarges. Recall that this probability increases when enforcement of best execution become stricter (λ increases). Hence, a stricter enforcement of best execution induces liquidity providers in Market E to compete more aggressively with market N.

To sum up, we have obtained two results:

1. The more competitive is Market E, the stricter should be the enforcement of best execution.

2. The stricter is the enforcement of best execution, the more competitive is Market E.

This implies that the optimal enforcement policy and the competitiveness of Market E are jointly determined. An equilibrium is a pair of values (λ^*,θ^*) which solves simultaneously Eq.(2) and Eq.(3), that is

$$\lambda^*(\theta^*) = Min\{Max\{0, \frac{I}{2P} - \frac{(L-\theta^* P)\overline{C}}{2(\theta^* P)^2}\}, 1\},$$
$$\theta^*(\lambda^*) = Min\{\sqrt{\phi(\lambda^*, \theta^*)\frac{(TC_N - I)}{\kappa}}, 1\}.$$

This system of equations is not completely straightforward to solve. However, for all possible values of the parameters, it is immediate that there is always a very bad equilibrium in which (a) Best Execution is not enforced ($\lambda^* = 0$) and (b) Market E does not add competitive pressures ($\theta^* = 0$). The economics intuition is very simple. If the regulator does not expect Market E to provide superior prices then auditing the broker is worthless. But in turn, if there is no audit, the broker does not search for the best price and liquidity providers in Market E have no incentive to post better prices. This sharply illustrates the complementarity which exists between the enforcement of best execution and the competitiveness of market E.

In general this complementarity generates several possible equilibria (multiple solutions to the previous system of equations). For brevity, I do not provide here an exhaustive analysis of all the possible equilibria. Rather I consider a numerical example which proves that there are multiple equilibria. The qualitative properties of the example are robust to changes in parameters' values. The numerical example is as follows:

1. $L = P = 0.1$ and $\overline{C} = 0.15$ (recall that L and P should be understood as being per investor).

2. $TC_N = \frac{3}{4}$ and $I = \frac{1}{4}$.

3. $\kappa = 0.1$.

In this case, in addition to the very bad equilibrium described previously, there is anoother equilibrium. In this equilibrium (a) best execution is enforced but imperfectly ($\lambda^* = 0.882$) and (b) trading costs in market E can be better than in market N, but not with certainty ($\theta^* = 0.735$).[10] Investors are better off in the equilibrium with imperfect enforcement since their total trading costs (transaction taxes included) are equal to 0.28 instead of 0.375 in the equilibrium with no enforcement at all.

Our model of competition between trading venues is rudimentary. In a more general model, the behavior of liquidity providers in Market N should also be analyzed. Intuitively, they should tighten their spreads when they face more competition from Market E. This effect will reinforce the virtuous relationship between the enforcement of best execution and competition between trading venues. A strict enforcement of best execution fosters competition for the order flow between trading venues and lead to smaller trading costs for investors.

3 Some Policy Implications

The previous model is highly stylised. But it delivers some implications for the debate on the policy of best execution which I think would be robust in more general environments. I discuss now these implications.

It is often argued that best execution should be defined with reference to the posted quotes in the dominant trading venue for a security (Market N in our model). For instance, in the UK, the SETS price is taken as a benchmark to determine whether or not a client as received best execution. In the US, the National Best Bid and Offer (NBBO) is often taken as the reference. In its consultation paper on the regulation of best execution, the Financial Services Authority (FSA) questions the use of such price benchmarks on the grounds that it might not provide brokers with the incentive to search for the best possible price. The FSA also stresses that the use of a price

[10]The reader can check that the claim is correct by substituting λ^* and θ^* in the system of equations which characterizes the equilibrium.

benchmark may have an impact on competition between trading venues (see item 5.9 on page 17 in the FSA discussion paper).

Observe that in our model, best execution is **not** defined with respect to a price benchmark. Rather best execution is achieved if the broker gets the best possible price **posted** in the different trading venues. This is crucial. If best execution were defined with respect to the price posted in Market N, there would be no incentive at all for the broker to monitor Market E. Strict compliance with the letter of the rule economizes on the monitoring costs and protects her against the claim that she did not search for the best possible price. The situation would be akin to a situation in which best execution is not enforced. In this case, the model shows that there is no incentive for Market E to compete with Market N.

Thus the predominance of a trading venue might precisely be due to the fact that its quotes constitute the benchmark for best execution. This suggests that benchmark pricing is problematic not only because it destroys brokers' incentives to search for the best price but also because it prevents the emergence of new competitors for the dominant market.

In the previous section, we noticed that there is always a bad equilibrium in which best execution is not enforced and Market N faces no competition. It is worth stressing that it may be difficult to move from such a bad equilibrium to the better equilibrium in which the dominant market faces active competition. Actually, for any enforcement policy which is below the optimal level, there exists a vicious circle which leads to the no enforcement equilibrium. To see this point, suppose that the regulator chooses an enforcement policy λ which is sligthly below $\lambda^* = 0.882$. For instance, suppose that $\lambda = 0.8$. This sparks the following vicious circle. First the liquidity providers in Market E respond by improving on Market N's trading costs with probability $\theta^*(0.8) = 0.66. < 0.735$. Then the regulator optimally chooses a less stringent enforcement policy: $\lambda^*(0.66) = 0.68$ which in turn leads Market E to be even less competitive ($\theta^*(0.68) = 0.56$). The end point of this spiral is the equilibrium

with no enforcement of best execution and no competition.

Again this suggests that financial markets can be trapped in a situation in which best execution is poorly enforced on the grounds that new trading venues do not frequently offer good prices. But this situation can be the result of a poor enforcement of the best execution duty.

This situation can also appear when the costs of monitoring the different trading venues is high for the brokers. For instance, assume that $\overline{C} = 1$ in the previous numerical example. In this case the unique equilibrium is such that there is no enforcement and no competition ($\lambda^* = 0$ and $\theta^* = 0$). In contrast, for $\overline{C} = 0.15$, recall that there is an equilibrium in which the two trading venues actively compete. Hence factors which decrease brokers' monitoring costs can help to foster competition between trading venues. One such factor is data consolidation across trading venues. Actually data consolidation facilitates a quick comparison between the trading costs in different trading venues. Easier access to various trading platforms can also reduce search costs for the brokers. Clearly the process of searching for the best price is more complex if there is no common point of access to all trading platforms. Finally greater compatibility of trading rules between different trading venues can be helpful since brokers are likely to develop more expertise in one type of market structure.

In practice, as Self-Regulatory Organizations (SROs'), Exchanges can also craft and enforce the regulation regarding best execution. For instance, in 1995, the NYSE fined one investment bank for "*assigning to the firm trades at prices more favorable than those assigned to institutional investors*".[11] However, the previous analysis indicates that there might be a serious conflict of interests for Exchanges.[12] Actually, enforcing best execution can aggravate the competition they face from alternative trading venues (like ECNs'). Thus we can expect them to opt for a best execution policy and a level of enforcement which is quite different from those chosen by an

[11] See Macey and O'Hara (1997) for more details on this case.

[12] See DeMarzo, Fishman and Hagerthy (1998) on this issue.

independent regulatory agency. Interestingly, in its response to the FSA consultation paper, the London Stock Exchange argues in favor of a definition of best execution based on the price posted in the most active market (that is SETS). In view of the arguments developed in this paper, this is not surprising. This policy is likely to hinder competition for the order flow and to protect SETS dominant position in the UK equity market.

4 Conclusion

In this paper I have considered a situation in which brokers have no incentive to provide best execution because it is costly to monitor several trading venues. Hence best execution must be enforced by a regulatory agency. I have emphasized the complementarity which exists between strict enforcement of a best execution policy and active competition between trading venues. Both benefit investors.

It could be argued that in practice there is no need for regulatory intervention. As brokers compete for investors' orders, they should endeavor to minimize their clients' trading costs in order to retain them. However, it is difficult for individual investors to determine whether or not they have obtained best execution on a particular transaction. There are at least two reasons for this. Monitoring the quality of execution requires to have access to comprehensive market data. This is expensive and these data may not always be available (in the case of OTC markets for instance). Furthermore, measuring trading costs is not straigthforward as shown by the extensive literature on this topic.[13] One solution is to require brokerage firms to review their execution performance and disseminate information on this performance. The SEC requires that[14]

> *"A broker-dealer must regularly and rigorously examine execution quality likely to be obtained from the different markets or market-makers trading*

[13] See Macey and O'Hara (1997) for a survey in the context of the debate on best execution.
[14] Order Execution Obligations, September 6, 1996, SEC Release N°34-37619A, 60, pg.174.

a security."

Steps have been taken in this direction by some brokerage firms in the US. For instance, Merril Lynch developed a system (BEAMS) to measure the execution performance of its own traders and the trading venues to which Merril Lynch routes its orders. This does not eliminate the need to verify that the information provided by firms on their execution performance is accurate, however.

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Observations on the Concept of Best Execution, & Alternative Approaches to Monitoring Trade Execution Quality

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Introduction

This is a short discussion paper and is far from a complete & comprehensive analysis of Execution Monitoring & its associated Regulation. What it offers however is a small collection of observations, theoretical examples and comments on alternative approaches in the area of trade quality monitoring.

"Best Execution" is a concept that underpins a great deal of regulation in financial markets. The concept seems so simple and obvious, and yet in practice it is extremely difficult to analyse and regulate with confidence. Many market participants are dissatisfied with the current application of regulation in this area, and most regulators appear to acknowledge that there are serious gaps and inadequacies in the consideration of execution quality. The markets are changing and evolving rapidly, and it is no small task for a regulator to keep pace. It is essential that they do though, otherwise customers of the financial markets will undoubtedly suffer if regulation is inadequate.

Many of the regulatory principles of execution monitoring are founded upon old market models. It was not too long ago that a share price could only be discovered from one trading venue. That is certainly changing, and this alone introduces a number of practical issues and problems.

In this paper Transaction Cost Analysis (TCA) is referred to, but not explained at any length. As any experienced practitioner will know, TCA is a complex and extensive subject that could easily fill an entire book.

I do not know whether there is a "perfect" answer to monitoring execution quality, but I suspect we will have a much more pragmatic regulatory structure if we incorporate and / or extend a couple of ideas. Firstly, it seems to me that we need to recognise that because incidences of intentional or negligent failure are rare, regulation should separate incorrect behaviour from performance monitoring. This would necessitate the introduction of specific regulatory requirements to consider the general quality of execution. This new area of regulation would not be introduced for the purpose of increasing the number of "offences" and penalties, as that is not the key issue. It is good practice however for firms to review their own execution performance. Secondly there seems to be less accountability to customers in the area of execution quality than there should be. Obviously the Myners report in 2001 raised the general issue of trading costs, but there are many aspects of execution quality monitoring that were not considered in that report. Some of the topics identified in this paper could be considered with the intention of building guidelines for dialogue between asset managers and customers on the subject of execution quality. This would also help to ensure that more comprehensive monitoring takes place, as it would put customers in a much stronger position to question their asset managers' execution quality and performance.

The principle of self-regulation as adopted in the UK has in my opinion proven to be both effective and flexible. Any change to the regulation of execution monitoring can and should be incorporated under the principles of self-regulation.

CURRENT APPROACHES & ISSUES

Objectives & Appropriateness of Best Execution Monitoring

Well-regulated Financial Markets must have rules to ensure proper conduct in the execution of market transactions. Those rules mainly need to protect inexperienced or vulnerable investors, but must also provide an acceptable level of safeguard to more experienced or professional market participants.

The area generally regarded by both regulators & practitioners as the most open to abuse when trading is that of the execution price for a market transaction. Market regulations on the quality of an execution price are therefore required in order to prevent behaviours that would act to the unfair or unreasonable detriment of the customer.

The introduction of the concept of "Best Execution" by regulators was seen as a way to provide an appropriate assessment of the reasonableness of the prices of market transactions and prevent abuse of execution prices. More recently however the concept of Best Execution has attracted criticism and is no longer widely regarded as either universally appropriate or sufficiently rigorous. For example, in the current regulatory environment it is generally accepted that it is far easier to prove a failure to achieve best execution than the actual achievement of it (though even proving failure to achieve can be very difficult). This is a serious problem when one considers that proven failure to achieve Best Execution is actually a very rare event in real life. How should we therefore regard Best Execution monitoring? Does this demonstrate that Best Execution rules are highly effective in preventing bad behaviour? On the other hand, does it simply mean that the existing Best Execution rules are ineffective because so few problems are identified? Although we all have an opinion on this matter, it is an extremely difficult question to answer with any certainty.

Part of the problem of providing an effective regulatory safeguard for transaction pricing is the need to establish what our intentions and objectives should be when trying to protect customers. Similarly, what do we feel is an acceptable penalty to be brought to bear when we identify that a party has failed to act appropriately?

Classifying Failure to Achieve the Best Available Price

Understandably most regulators and market participants regard the failure to provide the customer with the best transaction price as a very serious matter indeed. As such the penalties for this failure are usually severe. While superficially this appears perfectly sensible, are we quite content that this approach takes enough issues into account? Are we happy that all failures are essentially the same and should be treated with equal penalties? Is the act of applying a severe penalty the correct course of action in all cases? Should we not explicitly classify different levels of seriousness for different situations within the regulations?

To help us understand why we may wish to differentiate levels of failure to achieve the best available price, let us imagine a situation where a trader is instructed to sell 1,000 shares of Barclays, and consider the following possible outcomes:

1. After receipt of the order but prior to execution, a trader consults a price source and notes that a bid of 2100 for 1,000 Barclays shares is available. The trader gives the order to a counterparty and receives a price of 2095. The price source continues to display the bid of 2100 both at the same time as, and after the execution takes place.

2. After receipt of the order but prior to execution, a trader receives a telephone bid of 2100 for 1,000 Barclays shares from a permitted counterparty that is normally used in the course of business. The trader intentionally ignores the bid and chooses instead to sell the shares to an alternative counterparty at 2095.

3. A trader is given full discretion to execute the order at a time of his choosing during the trading session. The trader chooses to delay execution in the belief that the share price will rise. Instead the share price falls and the trader finally executes the trade at 2075.

4. A trader is given full discretion to execute the order at a time of his choosing during the trading session. When the order is given, the fund manager advises the trader that his prediction is that the share price will rise within the next 1 hour. The trader chooses to ignore the prediction

and instead trades immediately at 2100. Within the next 30 minutes the share price rises to 2150.

5. A trader has systems to establish prices available through alternative trading systems and / or venues (but not necessarily other Exchanges). The trader decides not to consult these sources and instead trades immediately with reference to just one price source that displays a best available price of 2095. Had the alternative price sources been checked, it would have been discovered that by trading through an alternative venue a price of 2100 was available.

6. The firm for which the trader works chooses not to subscribe to market information from alternative trading systems and / or venues. The trader executes the deal at 2095, but had another information source been available, it would have been discovered that it was possible to execute at 2100.

7. A trader receives the order but is instructed by the fund manager that the order is being "client directed" to a particular broker. The trader trades at 2050 with the "directed commission" broker in the full knowledge that a price of 2100 is available elsewhere.

Through these very simple examples we begin to see the complexity of situations that can be encountered. What is not in question is that in ALL of these cases the customer achieved a worse price than was otherwise possible. In cases 1,2,3,5,6 & 7 the better price was available at the time of execution, and in case 4 the better price would have been achieved had the trader observed the prediction of expected price movement.

Are we therefore content that all of these situations constitute a breach of our expectation to achieve "Best Execution"?

In my opinion these situations are definitely not the same as they show differences between ***intentional failure*** and ***poor performance.*** Some of these situations are unacceptable and should be penalised, whereas others are issues of performance, resource or capacity and should not carry a penalty. A "best execution" style regulatory environment can identify some of these situations, but most would simply be missed. The differences should also lead us to think

that there has to be a difference in the severity of the failures. While we can see that these examples all demonstrate the failure to achieve the best price, the underlying reasons seem to divide into three specific classifications.

My definition of those classifications is as follows:

A. INTENTIONAL FAILURE TO ACHIEVE THE BEST PRICE FOR THE CUSTOMER – Cases 2 & 7, and possibly case 1 also.

B. DERELICTION OF RESPONSIBILITY OR NEGLIGENCE – Case 1

C. OPERATIONAL INEFFICIENCIES – Cases 3,4,5 & 6

Standard Approaches for Monitoring Execution Quality

So let us consider how a "best execution" type of regulatory regime would identify and respond to the scenarios above. As we know, most regulation of execution quality is founded upon the concept of "Best Execution", and most structures have very similar approaches to establishing what the best price would have been. Historically the standard approach is to extract a reference or comparison price and then compare the actual execution price against it. Indeed many regulators still insist upon this method as the required approach in order to demonstrate "Best Execution".

In establishing the reference price regulators have in the past tended to avoid the thorny issue of multiple data sets. If there were two or more price sources available, common sense would dictate that the reference price should be the best price available from any of those sources. The FSA does in fact require the cross comparison of alternative price venues, however this is far from a simple issue and even under FSA regulation there may be loopholes – this will be discussed later. In many regulatory structures however this obligation to cross compare prices simply does not exist, and normal procedure is to use just one reference price – usually that of the main domestic Stock Exchange.

Price Fragmentation and Best Execution Monitoring

An incorrect regulatory approach towards fragmented prices is serious in itself but it also has other systematic & structural consequences, which I would like to identify here. It is easy to regard the price formation process as the compilation of those prices that are published on Recognised Investment Exchanges. In actual fact the construction of the best available market price is considerably more complex and diverse than that.

We are fortunate in that we have a real-life case study of what can happen when regulations do not appropriately address the issue of fragmented prices. Some years ago the issue of regulating an environment with multiple price sources was tested for real in the UK. Tradepoint was granted Regulated Investment Exchange status and consequently became a direct competitor to the established domestic exchange, the London Stock Exchange (LSE). The Investment Management Regulatory Organisation (IMRO) found it necessary to review Best Execution rules under these new circumstances. Rather interestingly IMRO came to the conclusion that even if a firm chose to access both prices it was not (at that time) necessary for that firm to compare both LSE & Tradepoint prices for the purposes of establishing where Best Execution could be achieved.

This seemed to be a rather strange decision, to say the least. The consequences were many but the most disturbing was that it allowed brokers to choose their execution venue regardless of the best available price for their customers. It was hard for practitioners to treat a rule that insisted on the achievement of the best execution price credibly when it contained such an enormous loophole.

The inability of this rule to address the very situations it was expected to was clearly a problem, however there were other interconnected problems as well. Whilst Tradepoint had many members, not all were genuine supporters. Those who were not supporters chose to use the price information available through Tradepoint as a guide to market liquidity and in some cases deliberately attempt to corrupt or spoil prices available on the LSE in order to discourage trading on Tradepoint. In some cases this could even lead to arbitrage opportunities between different client orders. The key issue I identify here is that when regulations designed to cover best execution do not

work, other areas can be affected – in this example market manipulation becomes much easier to achieve.

As mentioned above, the FSA does have a requirement to check multiple price venues, however we have to ask whether for most professionals it is even possible to apply this rule in practice. In the case of an asset manager, prices can be received in a number of ways. They can be received from a pricing service such as Reuters, verbally from a large number of brokers, electronically via a multitude of other services or systems including email, or perhaps even by FAX messages.

To be certain that the best available price is being used for any individual trade it is necessary for all available prices to be considered at the point of execution. From a practical viewpoint there is only one solution to this: the electronic amalgamation of price information at the point of trading, regardless of originating venue. At this point in time most asset managers would not be able to reach this standard easily, and consequently are already exposing themselves to situations whereby they have (unknowingly) failed to achieve the best available execution. No matter what new regulations could be put in place, an asset manager would have difficulty in making this important change in a short space of time. Consequently it would make sense for regulators to find ways to encourage and plan for this change, rather than expect it to be adopted quickly.

Fortunately the industry as a whole is tending to move toward the electronic communication and distribution of prices. The idea of trying to efficiently amalgamate verbal, paper and electronic price information is simply unrealistic in all but the slowest moving market situations. With the increasing use and acceptance of electronic information distribution it will become far easier for asset managers to centralise the price information available to them, in order to have this easily available to the trader at the point of execution.

The introduction of any new regulation in this area needs to have this change in mind as it will greatly improve the practitioners' ability to comply with the requirement to achieve the best available price, and it will make it considerably easier for a regulator to enforce the rules.

Reviewing the example scenarios under a "Best Execution" regime

We are considering the effectiveness of the current "Best Execution" type regulatory approach for those scenarios that were listed earlier. We will assume that in the scenarios described above the reference price is drawn from one or more Exchange price source and is taken at the point of trade execution only. By using this comparison alone, in which of the scenarios described above could we identify that a better price was, or may have been available?

By using a simple point in time comparison of the executed price versus the reference price, the only scenario that would be identified is number 1. While scenario 1 may evidence negligent behaviour and is clearly not acceptable, it is not the most serious of the scenarios. We would normally expect negligent acts to be rare, and so we are unlikely to identify many of these instances even if every single trade execution were compared.

Pausing for a moment, we need to recognise that these scenarios assume the quantity of shares traded was no larger than that being bid for at the better price. Most regulations have a further problem when the executed amount was larger than the amount available at the better price, because the usual assumption is that we are not in a reasonable position to compare the two. Common sense should tell us however that if a better price is available elsewhere, it should be investigated in case there is either subsequent or hidden volume. This does not add any clarity when reviewing from a regulatory perspective however.

What if we ask ourselves whether any other regulations or checks could highlight issues with the scenarios described and bring them to our attention? It is true that if the regulator were able to and chose to listen to tape recordings of the conversations between the trader and a broker, that case 2 (the most serious case) might have been uncovered.

However:

- What if this was a large order that took several days to complete?

- What if the trader had a number of sources of price information, not all of which were clearly documented and subsequently available?

While we all understand that practicality dictates regulatory monitoring must be conducted on a sample basis, one can see the enormous amount of work required to follow through even one instruction. This type of monitoring would need to be extensive and carried out for all points of the execution lifecycle. The probability of identifying such a (hopefully) rare situation through monitoring is virtually zero.

In scenario 3 we might argue that regulations relating to timeliness of execution have a bearing. However we know that it is essential for an asset management trader to maintain discretion over the timing of an execution in order to reduce the cost of trading. Expecting the trader to achieve anywhere near 100% success when exercising that discretion is clearly absurd. At present most regulators would simply disregard this situation because the "best execution" rule as generally understood has not been infringed.

As demonstrated above, there are a number of situations where at very least a regulator should expect an asset manager to identify in some way the failures described. The standard approach of using a point in time "Best Execution" comparison is unlikely to uncover the vast majority of these situations, even if applied to every market trade. It also fails to distinguish that there are levels of seriousness in poor execution. As discussed above, inappropriate regulatory interpretation of new market conditions (such as fragmented price information) can also render the rule practically useless from a regulatory standpoint.

In short, the standard "Best Execution" point in time comparison that is normally used is simply not an effective way in which to monitor execution quality.

How Serious is each type of Failure?

To reiterate, the classifications I have described are:

A. INTENTIONAL FAILURE TO ACHIEVE THE BEST PRICE FOR THE CUSTOMER – Cases 2 & 7

B. DERELICTION OF RESPONSIBILITY OR NEGLIGENCE – Case 1

C. OPERATIONAL INEFFICIENCIES – Cases 3,4,5 & 6

The order of these classifications seems a common sense way to regard the seriousness of the failure, with A being the most serious, and C the least.

My opinion is that some types of failure should of course carry penalties. There are however other types of failure which **need to be** drawn into the regulatory arena of execution monitoring, but **without** the expectation of applying penalties.

The simple logic is that as we cannot definitively prove "Best Execution", this area of regulation needs to be re-branded in some more appropriate way. Perhaps a better description of the area under regulation would be "Inappropriate Execution & Trade Execution Quality". The concept of appropriateness encompasses incorrect and unacceptable behaviour, while the new concept of Trade Execution Quality should consider situations that require monitoring under regulatory direction but may not in fact be subject to direct regulatory scrutiny.

Intentional failure to achieve the best price for the customer

Obviously one would expect a regulator to treat this situation very seriously. As we know, it is often very difficult to prove intent, however the regulations must recognise that when it happens it is a very serious act of misconduct.

There is one unusual exception in regulatory treatment of this situation: this is when the client chooses to "opt out" of their right to Best Execution. In some regulatory regimes this is permitted at the express request of the client.

From a practitioner's viewpoint it is not very clear as to why regulations provide for this situation. Presumably it is so that the client is not limited as to how they may carry out their business. Making the assumption however that "Best Execution" regulations are intended to protect the client, this is clearly an area where regulation fails.

It is becoming increasingly common for intermediaries to sell "commission recapture" or "directed commission" programs. In many cases these programs can not be entered into without the client's agreement to waive their rights to best execution. The asset manager usually requires this because in order to fulfil the direction of business, it will be necessary to trade at worse prices than are otherwise available and / or with brokers who are not expected to be able to provide adequate execution quality. The client is in effect taking discretionary control of their trading through entering into these agreements. It seems only reasonable that regulations should be comprehensive in this area in order to protect customers from the miss-selling of such programs and to ensure that clients are made fully aware that such programs can often have a negative effect upon their asset value, rather than a positive one. In other directed commission programs where opting out of Best Execution is not required, the client may suffer in other ways, such as the reduction or withdrawal of 3rd party services that directly benefit the client. Either way such programs can lead to a material loss to the client.

In considering other intentional acts of failure to achieve the best price, there is one very effective way to discourage such behaviour which is already in place. This is the approach of regulating individuals as well as organisations and providing powers to pursue and prosecute individuals for breaches of the rules.

The usual reason why an individual might transgress this rule would be in order to receive material benefit of some kind. By trading with a counterparty at a worse price, the counterparty may have the opportunity to make an excess profit to the detriment of the underlying customer. If the breach occurs within or is ignored by the asset management firm, it is possible that the motive may be in order to receive similar benefits from the counterparty. It should be noted that although very rare, in practice this situation is considerably more likely to happen when the trader is put under pressure from a more senior colleague, such as a portfolio manager, to take a particular but incorrect course of action when trading.

To avoid any possibility of this occurring, it is essential that regulations enforce the separation of trading responsibility from that of investment objectives. Traders must retain sole responsibility for the correct execution of customer business, and not be susceptible to pressure from other operational areas to act to the detriment of customer business.

The only practical way in which to ensure that these failures can be identified is to increase the frequency of monitoring and / or to try to draw all available and appropriate information into a central record set. The possibility of drawing all records together is becoming far more possible, but presently remains a significant and expensive task. It would be unreasonable to insist upon fund managers maintaining such combined records at the current time.

Dereliction of responsibility or negligence

This is of course a serious matter, but it is explicitly different from the other types of failure described. Negligence that causes a client to suffer financially can be much easier to identify than other types of failure. For one thing, it is less likely that a participant will seek to actively hide the circumstances of the event, if for no other reason than it may not even have been known to have taken place. It is only reasonable that this type of failure would normally carry a penalty.

Operational inefficiencies

Whilst these situations can arise which are detrimental to the customer, they are currently outside of the bounds of regulation and not usually considered at all. Such failures are not necessarily due to either negligence or intentional failure. When this type of failure occurs, it could be because the trader is specifically attempting to reduce the execution costs for a customer, but is simply unsuccessful. Consequently this means that such situations are not obvious candidates for incurring penalties. These situations are simply a result of the relative success of trading strategies, and are essentially no different to the relative success of stock selection strategies.

POTENTIAL REGULATORY DEVELOPMENT

Separation of Unacceptable Behaviour from Systematic Failing

Extending some of the ideas above, the most obvious change in regulatory style would be a specific separation of regulatory approach between those behaviours that are clearly due to incorrect behaviour, and those that are not. Incorrect behaviours such as intentional failure or negligence should be penalised under the regulatory regime and I categorise these simply as "Inappropriate or Unacceptable Behaviour". The current approach that most regulators adopt usually provides acceptably severe penalties when such activities are uncovered and should continue to do so.

The new area that needs to be introduced to regulatory regimes would be to provide extra safeguards relating to the review and monitoring of systematic operational risks in execution. In short, this means that some sort of recognition of performance and operational risk in execution quality is required.

The use of directed commission programs presents a risk to customers, and some of these products are miss-sold and do not deliver the benefits that the customer anticipates. Consequently the regulations surrounding the expectation to trade at the best available price should be strengthened to ensure that customers do not suffer through the misuse of directed commission programs. The abolition of such programs provides the highest safeguard, however this may be too extreme a development at the present time. At very least customers should be provided with better information upon which to make a decision. Updated regulations could ensure that customers are provided with better information on the alternatives for reducing commission expenditure and the appropriateness of doing so. Specifically an alternative approach where the asset manager could compress commission costs can be documented or discussed with clients so as to offer better information upon which the client could make a decision.

The concept of consultants or intermediaries introducing directed commission programs for customers that can then be applied against fees or expenses is an unacceptable behaviour. This can contribute to the miss-selling of such products and is an ineffective and costly way in which to attempt to offset charges.

Potential New Regulations Pertaining to Operational Behaviour

In order to increase the safeguards to customers in the area of transaction prices and overall performance, some key issues need to be addressed. Firstly there should be an expectation that asset managers should specifically monitor their implementation performance when dealing on behalf of customer portfolios.

Secondly the asset manager should be expected to take implementation costs into account in the investment process when executing on a customer's behalf. Furthermore the asset manager should be expected to explain trading strategy and process to customers in much the way they would do so for investment strategies.

Thirdly, in order to ensure that asset management trading desks are incentivised always to act in the best interests of the customer, asset managers should be expected to document their strategy for "unbundling" related services. This follows on from the implications of the Myners' report, which correctly identifies that in certain situations there is a "tension" between achieving the best execution for a client, and reciprocating bundled services.

It is probably too early to expect asset managers to be able to offer fully unbundled service programs, but this may well occur in time. A very useful interim solution would be to task the asset manager with identifying those commissions paid, providing a breakdown of the apportionment of those commissions with the reasons for payment, and reporting this information to the client. As an interim stage this would be relatively easy to achieve, and would enormously progress the objectives of the Myners' report.

Transaction Cost Monitoring Programs

There is a difference between simply subscribing to a Transaction Costs Analysis (TCA) system or service, and implementing a suitable Transaction Cost Monitoring program. In order to benefit and protect customers it is essential that asset managers are able to provide TCA analysis. Ideally this should be from an independent third party. However it is also very also important that the asset manager should be expected to explain both the reasons for performance and action being taken to improve the quality of

execution. As such, asset managers should be expected to present such information to customers in the normal course of the relationship.

TCA is a detailed subject with a variety of approaches to monitoring and assessing transaction costs, and I shall not look at the relative merits of those styles here. However the most important issues that need to be considered are:

- Evidencing suitable knowledge and understanding of TCA
- Appropriate benchmark selection
- Appropriate standards for review

Few practitioners have an acceptably high understanding of either the fundamentals of transaction cost or the methods of assessing them. As interest in this subject grows, we can expect the financial community to increase knowledge in this area, but some small pressure from regulators would certainly help to progress this change.

As clients and consultants currently have a very limited knowledge of transaction costs and their analysis it is essential that asset managers are able to demonstrate familiarity and to some extent provide a degree of client education in this area.

Selection of the TCA benchmark is fundamental to the success of any TCA program. The asset manager must be expected to select the comparison benchmark with due regard to the objectives and style of the assets managed.

An obvious area for new regulation is in the expected standards for communication and reporting between the asset manager and the client. Any new regulation should include areas such as the frequency of reporting, level of content of the analysis and ideally an acceptable degree of client specific review. Entirely customising the analysis to individual clients would presently be prohibitive on the grounds of cost, but should be considered as a future area for development.

What Is Best Execution?

A Primer For Satisfying the Investment Adviser's Fiduciary Duty Under U.S. Securities Regulation

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An investment adviser's fiduciary duty requires the adviser to act in the best interest of its clients and to place the interests of its clients before its own.[2] The U.S. Securities and Exchange Commission (SEC) expressly stated in a 1986 interpretative release that an investment adviser, as part of its fiduciary duty, has an obligation to seek best execution for its clients.[3] The SEC has focused on the best execution policies and procedures of investment advisers over the past three years to determine how and whether firms were fulfilling their fiduciary obligation.

The 1986 Release hinted at some of the factors an adviser might consider in seeking best execution. However, most firms operated on a "you-know-it-when-you-see-it" basis until recent scrutiny forced them to review their practices and to develop written policies and procedures. Investment advisers have extrapolated guidance from informal and unofficial speeches and articles by SEC staff, a few enforcement cases, and rules and guidance issued to broker-dealers. Nevertheless, the SEC has provided little official guidance beyond the 1986 Release in defining best execution. This paper reviews the various official and unofficial declarations on best execution and attempts to coalesce these ideas into a workable framework for establishing a best execution process in an investment advisory firm.

Defining Best Execution

In the 1986 Release, the SEC defined best execution to mean execution of "securities transactions for clients in such a manner that the client's total cost or proceeds in each transaction is the most favourable under the circumstances."[4] The SEC also stated in the 1986 Release, and continues to stress, that best execution does not imply the lowest possible commission rate.

For example, in 2001, SEC staff further stated that best execution could also be defined as "(1) placing trades intended, considering appropriate circumstances, to maximize the value of a firm's investment decisions and (2) placing trades intended to minimize implementation costs."[5] In attempting to define best execution, the SEC seems to be focusing on the overall value of client accounts rather than solely on the commission cost.

Despite asserting that commission rates are not the ultimate benchmark by which best execution should be measured, SEC staff often have publicly wondered why they were finding that advisers consistently paid six cents per share when they could have paid two or three cents per share by using electronic communications networks (ECNs). SEC staff also have publicly questioned why large institutional investors were not able to negotiate lower trade commissions.

Some further guidance on defining best execution may be found in enforcement cases, which indicate that trading at the "national best bid and offer" (NBBO) – the highest quoted bid price and lowest quoted offer price from among all quotations entered in the Consolidated Quotation System – may not constitute best execution.[6] In one case involving a broker-dealer/investment adviser, the firm executed transactions for clients acting as principal.[7] The firm entered these principal trades at the prevailing NBBO. At the same time, the firm engaged in offsetting transactions with third-market dealers with which it usually was able to negotiate a price that was better than the NBBO. The firm kept the difference between the two prices without disclosing this practice to clients. The SEC issued an opinion stating, "[R]outine execution of customer orders at the NBBO when better execution prices are reasonably available can be a violation of the duty of best execution."[8] This finding seems to tell us what best execution is not rather than defining what it is.

The SEC's definition of best execution can leave investment advisers scratching their heads. On one hand, the SEC has clearly stated that the commission rate is only one of several factors that should be taken into consideration. On the other hand, SEC staff clearly have expressed the view that the commission rate is critical in determining whether best execution is achieved.

Measuring Best Execution

Even thornier than defining best execution is the task of measuring trade costs to determine whether a firm has actually achieved best execution once trades are complete. To say the least, best execution is difficult to quantify on a trade-by-trade basis or even on an aggregate basis because measuring it requires consideration of numerous costs that are difficult to measure objectively. Recognizing this difficulty, the SEC specifically stated in the 1986 Release that the determinative factor in a best execution analysis rests on whether the investment manager has made the best qualitative execution for the account. Nonetheless, some investment advisers have employed pricing services that use a quantitative approach to measuring best execution. For example, the price received by a broker on a particular trade can be compared to the volume weighted average price, or VWAP, which is calculated for a certain number of shares traded over a certain period of time. The SEC staff cautions advisers against relying on such quantitative measurements because they "focus too much on price alone and fail to adequately measure qualitative aspects of a trade."[9]

SEC Provides Informal Guidance

For all practical purposes, the 1986 Release is the only official pronouncement of the SEC on the subject of an investment adviser's obligation to seek best execution:[10]

A money manager should consider the full range and quality of a broker's services in placing brokerage including, among other things, the value of research provided as well as execution capability, commission rate, financial responsibility, and responsiveness to the money manager. The Commission wishes to remind money managers that the determinative factor is not the lowest possible commission cost but whether the transaction represents the best qualitative execution for the managed account. In this connection, money managers should periodically and systematically evaluate the execution performance of broker-dealers executing their transactions. [emphasis added]

SEC inspection staff have interpreted the directive to "periodically and systematically evaluate" broker-dealer's execution performance to mean that advisers should establish a process that allows them to fulfill their fiduciary

duty of best execution. Because it is difficult to measure best execution objectively, inspections by SEC staff have primarily focused on examining advisory firms' processes rather than on determining whether firms actually achieved best execution.[11]

The SEC staff has consistently stated that the best execution process entails implementing written policies and procedures and it has begun issuing deficiency letters to advisers based on a failure to do so.[12] In conference speeches and published articles over the last three years, SEC staff have been outlining various factors that firms might consider in establishing such a process.

The SEC staff appears to believe that one of the key components of an acceptable best execution process seems to be establishing a committee that oversees the firm's best execution practice.[13] The committee's primary responsibility is to determine the criteria for selecting broker-dealers to execute client trades and to allocate trades to each broker-dealer, based on the firm's particular trading requirements. For example, a firm that trades foreign equities in emerging markets will have different requirements than a firm that trades domestic fixed income securities. SEC staff have described various factors that an adviser should consider in establishing and evaluating its brokerage arrangements, including the broker-dealer's ability to:[14]

- find sources of liquidity to minimize market impact;
- maintain confidentiality of trading intentions;
- commit capital when necessary to complete trades;
- execute unique trading strategies and settle difficult trades;
- answer the telephone in difficult markets;
- offer timely reports of order executions;
- correct trade errors;
- provide information to advisers, such as research reports and access to issuers;
- accommodate adviser's special needs, such as step-outs, prime brokerage services and custody of client assets; and
- provide access to investment opportunities such as IPOs.

The committee should periodically reconsider the importance of each criterion to the firm's trading practice and make adjustments as the firm's

trading needs evolve over time. On-going monitoring of selected broker-dealers' ability to fulfill the firm's trading needs is a critical element of the best execution process. The committee also should document in writing the reasoning behind each decision.

Technological developments and changes to market structure have affected the SEC's view of best execution. The SEC has stated that these changes may "give rise to improved executions for customer orders, including opportunities to trade at more advantageous prices."[15] ECNs present one such opportunity. SEC staff has specifically told advisers that they should consider using ECNs under certain circumstances, particularly when placing smaller trades.[16] For example, opportunity costs may increase when a large trade requires four or five days to complete. The adviser may not be able to complete the entire block at an acceptable price; therefore, using an ECN for a large trade does not always make sense. Whether an adviser uses an ECN depends on the facts and circumstances of the particular trade. SEC staff suggests that advisers identify the circumstances under which using ECNs would be appropriate and then follow through accordingly.

Although the SEC has issued deficiency letters to investment advisers for failure to establish adequate best execution policies and procedures, it has not yet brought an enforcement action based on this issue. However, in a recent administrative proceeding, the SEC emphasized the importance of fully disclosing practices involving conflicts of interest related to trading practices.[17] The SEC alleged that an investment adviser: (1) directed brokerage from small private accounts in return for client referrals; and (2) specifically altered its aggregation trading policies to provide that orders for small accounts would be executed separately from orders for large private accounts and mutual funds and orders for the small accounts would be executed after the orders for the large accounts and funds. The SEC found that these practices violated the Investment Advisers Act because (a) they were not disclosed in the adviser's Form ADV or otherwise, and (b) they were contrary to a Form ADV disclosure that it was the adviser's policy "to seek best execution of orders at the most favourable prices."[18] This case clearly indicates that adequate disclosure of a firm's conflicts of interest in relation to best execution practice should be a primary feature of an investment adviser's best execution process.

Regulatory Guidance to Broker-Dealers

The SEC has consistently stated that broker-dealers have an obligation to obtain best execution and that they are also obligated to perform a regular and rigorous review of execution quality likely to be obtained from different markets or market centers trading a security. Unlike investment advisers, broker-dealers have been given a great deal of guidance on fulfilling their best execution obligations. To further assist broker-dealers, the SEC has adopted a series of rules since 1996 that are intended to improve public disclosure of order execution and routing practices and to assist broker-dealers in meeting their obligation to regularly and rigorously examine their execution practices. The National Association of Securities Dealers Regulation has also issued extensive guidance to its members on obtaining best execution.[19]

While these rules and guidance do not directly affect investment advisers, they provide advisers with insight on the general fiduciary duty of best execution by highlighting broker-dealers' obligations and identifying specific factors that broker-dealers must consider in obtaining best execution. For instance, in addition to price and speed, the SEC has repeatedly said that "other factors may be relevant [to broker-dealers], such as (1) the size of the order, (2) the trading characteristics of the security involved, (3) the availability of accurate information affecting choices as to the most favourable market center for execution and the availability of technological aids to process such information, and (4) the cost and difficulty associated with achieving an execution in a particular market center."[20] Understanding the rules relating to the broker-dealer best execution obligations can help advisers understand how their orders are being executed, which also can help them fulfill their own fiduciary duty of best execution.

The first in the series of broker-dealer rules was adopted in 1996 when the SEC began requiring the display of customer limit orders priced better than a market maker's quote.[21] The SEC also began requiring market makers to publish quotations for any listed security when it was responsible for more than one percent of the aggregate trading volume for that security and to make publicly available any superior prices that a market maker privately quoted through certain ECNs. Two significant disclosure rules that went into effect in 2001 require all market centers to make available to the public

monthly electronic reports that include uniform statistical measures of execution quality on a security-by security basis.[22] Under the rule, execution quality is measured by effective spread, rate of price improvement, fill rates, and speed of execution. The new rules also require broker-dealers that route customer orders in equity and option securities to make publicly available quarterly reports that, among other things, identify the venues to which customer orders are routed for execution. These reports could be helpful to advisers to consider in assessing their trading practices.

Conclusion

The SEC has clearly stated that an investment adviser has a fiduciary duty to seek best execution, which entails developing and implementing a process that allows the firm to periodically and systematically evaluate the quality of executions provided by broker-dealers. Over the past three years, SEC staff have attempted to provide advisers with informal guidance on how to establish the best execution process. SEC staff have suggested that advisers should, at a minimum, write policies and procedures that explain the firm's trade execution practices, establish a best execution committee where appropriate, and adopt criteria for selecting broker-dealers. It is also critical that firms disclose their conflicts of interest in the Form ADV. Although SEC staff have discussed the basic principles of an acceptable best execution process, each firm's process will be different given the unique characteristics and practices of each firm. Ultimately, an investment adviser should implement a process that focuses on minimizing the total costs paid by clients and on maximizing the value of client accounts.

[1] Philippa P.B. Hughes serves as Counsel to the Investment Counsel Association of America (ICAA). The ICAA is a not-for-profit organization that exclusively represents the interests of SEC-registered investment advisory firms. Founded in 1937, the ICAA's membership today consists of about 300 federally registered advisory firms that collectively manage in excess of $3 trillion for a wide variety of individual and institutional clients. For more information about the ICAA, please see www.icaa.org.
[2] SEC v. Capital Gains Research Bureau, Inc., 375 U.S. 180 (1963).
[3] Interpretative Release Concerning the Scope of Section 28(e) of the Securities Exchange Act of 1934 and Related Matters, Exchange Act Release No. 23,170 (April 23, 1986) ("1986 Release").
[4] Id.

[5] Gene A. Gohlke, What Constitutes Best Execution?, in Behavioural Finance and Decision Theory in Investment Management (AIMR, 2001).
[6] In the Matter of Marc N. Geman, Exchange Act Release No. 43,963 (Feb. 14, 2001).
[7] Id.
[8] Id.
[9] Dechert Financial Services Client Memo on Best Execution: New SEC Staff Standards and Scrutiny (June 26, 2001).
[10] 1986 Release, supra note 3.
[11] The SEC's Office of Compliance, Inspections and Enforcement routinely inspects investment adviser firms at least once every five years.
[12] The SEC inspection staff issues deficiency letters to advisory firms when SEC inspectors find a violation or a possible violation of the Investment Advisers Act of 1940. The deficiency letter describes the practices or activities in question and requests that the adviser describe in writing the corrective measures, if any, it has taken in response to the deficiency. Advisers that do not correct deficiencies may be referred to the Enforcement Division.
[13] Gohlke, supra note 5. See also Paul F. Roye, Keynote address before the National Symposium on Investment Adviser Regulation (Sept. 10, 2001).
[14] Gene A. Gohlke, Presentation to ICAA/IA Week Compliance Summit (Mar. 26, 2001).
[15] Order Execution Obligations, Exchange Act Release No. 37,619A (Sept. 6, 1996).
[16] Gohlke, supra note 5.
[17] In re Founders Asset Management LLC, Advisers Act Release No. 1879 (June 15, 2000).
[18] Form ADV is the primary registration and disclosure document for investment advisers registered with the SEC. Rule 204-3 under the Investment Advisers Act requires investment advisers to provide certain written disclosures to prospective and existing clients initially and annually. This disclosure requirement can be satisfied with delivery of the advisory firm's Form ADV, Part II. Item 12 of the Form ADV, Part II asks advisers, in essence, to disclose the firm's best execution and soft dollar practice. Advisers must disclose material facts considered in establishing brokerage arrangements and selecting broker-dealers to execute trades. Conflicts of interest must also be disclosed.
[19] The National Association of Securities Dealers Regulation is the broker-dealers' self regulatory organization.
[20] Disclosure of Order Execution and Routing Practices, Exchange Act Release No. 43,590 (Jan. 30, 2001).
[21] Order Execution Obligations, supra note 15.
[22] Disclosure of Order Execution and Routing Practices, supra note 20.

Best Execution from a German Perspective

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Introduction

It is a well known fact that transaction costs play an important role for investment results. Sometimes they even eliminate the notional return of an investment strategy. Considering the small alpha margins in active management and the fiction of cost-free benchmarks in active and passive management, both institutional investors and asset managers have to pay thorough attention to this often neglected performance factor. In recent years, Performance Presentation Standards (PPS) gained wide acceptance, focussing explicitly on investment performance net of transaction costs.

Transaction costs can be decomposed into explicit and implicit costs. While it is quite easy to measure the visible part of costs (commissions), it is very difficult to measure the invisible part of costs like market impact and opportunity costs. Execution techniques to manage transaction costs are an important building block within the overall investment process, however, it is difficult to define them exactly.

Best execution has been discussed widely in economic science and practice in the US. As a result we find a couple of order-handling rules for US investment companies and other asset managers dealing extensively with best execution issues. We also find that best execution is an important part of the SEC's supervising process. By looking at this advanced process in the US we have to ask how the execution practice of German investment management firms and the regulatory approach in Germany in general compare to this global "benchmark".

We want to address these topics by first defining best execution and measuring transaction costs and then by describing the execution practice of German investment companies as well as the German regulatory approach. Thereafter, we will briefly outline the design of our own research to learn more about best execution practice in the German investment industry.

Defining Best Execution

The Association of Investment Management and Research (AIMR) gives a nice definition of 'best execution' which corresponds closely to the definition of the Securities and Exchange Commission (SEC). According to that, best execution is defined "as the trading process most likely to maximise the value of client portfolios." See Gohlke (2001).

This definition recognises that:

- best execution is intrinsically tied to investment style and process;
- is a prospective, statistical concept that cannot be known with certainty *ex ante*;
- has aspects that may be measured and analysed over time on an ex-post basis even though accurate measurement on a trade-by-trade basis may not be feasible;
- and is interwoven into complicated, repetitive, and continuing practices and relationships that depend on trust and fidelity. See AIMR (2001).

While it seems to be easy to define best execution, it is difficult to measure transaction costs and to derive specific order-handling rules to improve execution in practice. To get a clear picture of what best execution really is or should be we need to discuss the components of transaction costs in some more detail.

Components and measurement of transaction costs

Transaction costs are decomposed into two components: explicit and implicit costs. Whereas explicit costs are associated with visible accounting charges, the charge of implicit costs is not visible, which is why many investors are not even aware of their existence and influence at all. On the other hand, among

those who are aware, there is considerable disagreement on how implicit trading costs should be measured correctly. See Keim/Madhavan (1998).

Explicit costs consist of commissions charged by brokers and fees, stamp duties, and so on. In Germany an additional fee per order is charged by the custodian bank. Explicit costs for the US market have declined over time due to increasing institutional presence and technological innovations, e.g. the increased use of low-cost electronic crossing networks (ECNs), and now average around 20 bp. Soft commissions, like commissions paid for research provided by the broker or paybacks when total trading volume exceeds a predefined volume, distort the exact amount of commissions actually paid. See Keim/Madhavan (1998).

Of course, implicit trading costs play the dominant role when it comes to the difficult task of explaining underperformance, especially in those cases where asset managers – often based on their model portfolio performance – assure to have done everything else right (i.e. active management decisions). Implicit trading costs include bid-ask spread, market impact, and opportunity costs.

In the US bid-ask-spreads vary widely from less than 30 bp for the most liquid stocks (let's say S&P 500) to 400 to 600 bp for the least liquid stocks. However, in a market maker system, like NASDAQ, quoted spreads may be imprecise estimates of the true cost of transacting because trades are often executed within the quoted spread. Therefore, real trade prices are used to calculate effective bid-ask spreads, which are significantly lower than quoted bid-ask spreads. However, European stock markets are mainly order-driven, so quoted bid-ask spreads equal effective bid-ask-spreads.

Large trades of institutional investors typically demand liquidity from markets. These trades often move prices in the direction of trade, resulting in market impact. This market impact can be thought of as the deviation of the transaction price from the unperturbed price that would have prevailed if the trade had not occurred. Obviously, we cannot observe the unperturbed price, so as a proxy the price before the trade is often set to be the price benchmark. The market impact especially depends on trade size and market capitalisation. Empirical results for the US markets show an average market impact of 15 to 18 bp for liquid stocks and about 300 to 620 bp for illiquid stocks. See Keim/Madhavan (1998).

Traders can avoid market impact if they do not demand immediate execution but trade market neutral, which means to spread the order over time (e.g. over the trading day). But then traders bear another kind of risk, namely price risk of execution, since meanwhile prices might move against them (i.e. rise for buy orders, fall for sell orders). Another reason for opportunity costs is that trades with defined price limits are only partially filled or remain even unexecuted at all. The measurement of opportunity costs requires detail data such as the time of the decision to trade, investment objective, target price, and trade horizon.

In a study for the US market timing costs vary between 20 bp when the trade is liquidity neutral (markets do not move excessively) up to 350 bp for liquidity demanding orders (e.g. a buy order in a rising market). See Wagner/Edwards (1993). Compared to this, costs due to missing trades or partial execution seem to be low because different studies found high rates of completion in institutional trading. See Keim/Madhavan (1998). This might indicate that institutional investors in general – once they have derived their active portfolio decisions – strive for quick implementation of those positions and do not have the time or patience to wait for better trading opportunities.

Each individual component of transaction costs is economically significant. However, adding up the individual components in order to compute total costs of trading is misleading when those costs are obtained from different studies or different institutions. Perold (1988) introduced the "implementation shortfall" approach for measuring total transaction costs. According to that, costs are measured as the difference in performance between a paper (or model) portfolio with no costs and the performance of a real portfolio based on the trades actually executed. Studies for the US market show that even for liquid stocks total transaction costs might sum up to almost 100 bp one way. See Wagner/Glass (1999). Put another way, an actively managed portfolio turned once a year will show an ex-ante underperformance of 200 bp against its benchmark before any alpha comes into play. This is why active management is such a difficult task in practice, leading more and more the way to passive management as the much less cost-burdened alternative.

Determinants of transaction costs

To improve execution and thereby performance investors have to know the determinants that drive transaction costs. The relevant cost determinants typically are divided into investor specific factors such as investment style, trade size and order-submission strategy, and market factors such as market capitalisation, volatility, market momentum and market design. The investment style (e.g. active or passive, value or growth) is a proxy for unobservable factors like trader's time horizon or aggressiveness. Aggressive traders demand immediacy and should therefore have high expected costs. Less-aggressive traders, such as value managers, have lower turnover and lower costs because their longer investment horizon allows them to trade more patiently. See Keim/Madhavan (1997).

The order-submission strategy determines costs as well. Often traders have discretion to execute orders, e.g. choose a special order type and additional order instructions. Immediate execution of an order can be done by choosing a principal trade resulting in higher expected market impact. In opposite to that agency trades allow for market neutral trading, but of course might result in opportunity costs. Price limits, time limits, and price benchmarks like VWAP (volume weighted average price) are tools for accommodating orders to special market conditions and might affect transaction costs significantly.

Trade difficulty relates to how liquid a stock is and can be represented by trade size and market capitalisation. Trade costs are inversely related to market capitalisation, a proxy for liquidity. Of course, costs also depend on market momentum. And last but not least, market structure is an important determinant as well. As outlined above, costs have been found higher for NASDAQ-trades (quote-driven market) than for NYSE-trades (order-driven market).

At this stage, it is important to note that in the real world it is – and certainly always will be – impossible to buy and sell stocks with no transaction costs. For example, consider the costs which are due to market impact. Informed traders require more or less immediate execution because the value of information declines as it spreads into the market. See Berkowitz/Logue (2001). Investors buy (sell) stocks when they believe prices to rise (fall) and by ordering these stocks they already move prices in the trade's direction.

Of course, this is the process how information gets into prices, resulting in market efficiency as desired by market participants themselves. While set to zero in so-called efficient market theory, transaction costs are an integral part of our world's capital markets. Therefore, best execution for informed traders is not defined solely by minimizing trading costs.

To sum up, there is a set of trading tools which interact and determine trading cost. The question arises if and how these tools can be used in practice to systematically control and decrease transaction costs. Indeed, studies for the US market illustrate significantly different trading costs for different investment management firms obviously reflecting different trading skills of these companies. If this is the case, indeed, evaluation of trading skills becomes a very important topic to sponsors and consultants in their permanent quest for the most successful asset managers (i.e. manager selection).

Benchmarking the brokers' performance

Brokers have full agency responsibility to assure best execution for customer trades. Of course, the definition of best execution given above seems to be an unrealistic benchmark for practically evaluating brokers' performance, which is the premier factor for asset managers when reviewing their broker list. Instead, cost benchmarks that account for trade difficulty and market environment should be used. But these cost benchmarks are very difficult to construct and they have low forecasting ability, too.

VWAP is often used as an ex ante and ex post trade benchmark. The problem with large trades in illiquid stocks is that these orders may determine the VWAP themselves and may therefore be inadequate for benchmarking. On the other hand, using VWAP for liquid stocks is a problem if a broker's share of overall trading volume is large, since the broker might drive VWAP in the direction he desires. Such kind of market manipulation is not transparent to other market participants. Even for the most liquid European stocks a single broker's market share may be 20% or sometimes even more of total daily trading volume. Other price benchmarks commonly used by traders are fixed time prices like open or close prices. These benchmarks, however, might not correspond to the prices quoted when the trade is actually executed.

The time the broker needs to fill the order might be an interesting benchmark for brokers' performance. Often brokers have time discretion to execute trades, i.e. they have to fill orders until the end of the trading day. This time limit leaves brokers to decide themselves when orders to be filled. Tick by tick data (prices and turnovers) could be used to benchmark the brokers' discretion. Commonly market participants perceive trades to be market neutral (induce no market impact) when a broker does not execute more than one third of order book turnover. Of course, comparing the VWAP – calculated for prices between the broker release (time when the investor transmits the order to the broker) and the time when order book turnover (e.g. 300.000 stocks) exceeds three times the trade volume (e.g. 100.000 stocks) – with executed prices yields interesting insights into the brokers' ability to make use of his discretion.

Regulatory requirements

To evaluate best execution it might be worth to analyse the regulatory requirements because that might adequately reflect the execution practice of investment management firms. The US is setting the standards in this field, therefore we turn to the SEC's approach to best execution first and then look briefly at the AIMR trade management guidelines which are currently discussed in the US investment community. See AIMR (2001).

The SEC requires investment managers to seek the most favourable execution given the specific circumstances of each trade. The SEC identified the level of commissions and implicit costs, the speed of the trade, the size of the order, and the trade difficulty to be important factors. The most prominent role, however, plays the availability of accurate information concerning the most favourable market center for execution and the availability of technical support to process such information. In accordance to this latter requirement the SEC adopted two rules to improve public disclosure of order execution and routing practices as well as to improve market competition by showing the best possible prices for investors orders. Market centers are required to report monthly uniform statistical measures of execution quality. Furthermore, broker-dealers are required to disclose quarterly order routing venues among other items. Upon customer request, broker-dealers must also disclose the routing of specific transactions.

In November 2001 a trade management task force of the AIMR (Association for Investment Management and Research) presented a proposal called "Trade Management Guidelines" for public discussion. The guidelines focus on the obligations investment management firms have in relation to their clients regarding the execution of investment trades and the management of the trading function. Apart from the demands on the design of the trading process, the guidelines define relevant disclosures to (prospect) clients and certain needs of recordkeeping. The AIMR encourages investment professionals to adopt as many of the recommended guidelines as possible to comply with best practice industry standards. Investment managers may obtain useful information from the disclosures required by the SEC's and AIMR's rules to evaluate their own trading practices.

Best Execution in Germany

From a German perspective, the state of affairs in the US concerning best execution and regulatory requirements is far ahead. However, we firmly believe best execution rules and practice in German investment management firms will catch up rapidly within the next few years, driven by ongoing globalisation in asset management in general and by the increasing professionalism of local companies forced by institutional clients and consultants.

The German investment law emphasizes the general fiduciary responsibility an investment management firm has in regard to their clients. Of course, this implicitly includes execution matters as well. Further the investment law requires investment management firms to buy securities at most for the highest exchange price of a certain trading day and to sell at least for the lowest exchange price. This general rule shall assure the adequacy of market prices. However, it is a well known fact that daily volatility of stock prices is high, so the requirement to settle within the high-low-range does not guarantee best execution at all. We do not find any other rules concerning best execution neither in the German investment law nor in other rules of the banking supervision. But in our view having no specific rules concerning best execution does not necessarily mean that German investment management firms doing their business are not obliged to explicitly care about execution and transaction costs.

What about the execution practice of German investment management firms? First, we have to notice that a German investment firm typically invests about 80% of overall assets in a universe of European securities, reflecting the so-called home-bias of many of its clients. In many cases EuroStoxx 50 and Stoxx 50 represent the benchmarks for the stock investments, so the focus is clearly on large caps (blue chips), the segment where market efficiency is supposed to be at a maximum level, anyway.

We have seen above that the stock market system is an important determinant of best execution and therefore of transaction costs. The European stock market system differs from the US system: European stock exchanges (such as the XETRA-system in Germany) are organized as electronic order-driven markets whereas at NYSE trading still takes place on the floor and NASDAQ is a quote-driven system where stocks are traded via telephone. In the US the traded volume on alternative trading systems (ATS) has grown tremendously in the last years, indicating that transaction costs are possibly lower than on NYSE or NASDAQ. These ATS are in many aspects similar to the electronic trading systems of European exchanges. Therefore, it is reasonable to assume lower implicit transaction costs for European stocks, which might be surprising at first glance. But we expect the cost differing between European stocks because we observe differences in the market design of the European exchanges, e.g. concerning the pre- and post-trade transparency.

To get further insights, we interviewed 27 German investment management firms with total assets under management equalling 675 billion €, of which 40% are invested in stocks. The aim of our survey – which is the first of its kind for the German market – is to analyse the investment process with focus on execution practice and transaction cost management (trading function). We found that German investment management firms are mainly active investors, value and growth being the most frequent investment styles (see figure 1).

The bulk of investment management firms (about two out of three) creates model portfolios on a regular basis (weekly or monthly in most cases) for the most prominent benchmarks, reflecting all the valuable information generated by the research process which is then passed through into clients portfolios. We expect the average order size of these firms to be larger than for the rest because of order aggregation across different accounts, which then should effect transaction costs.

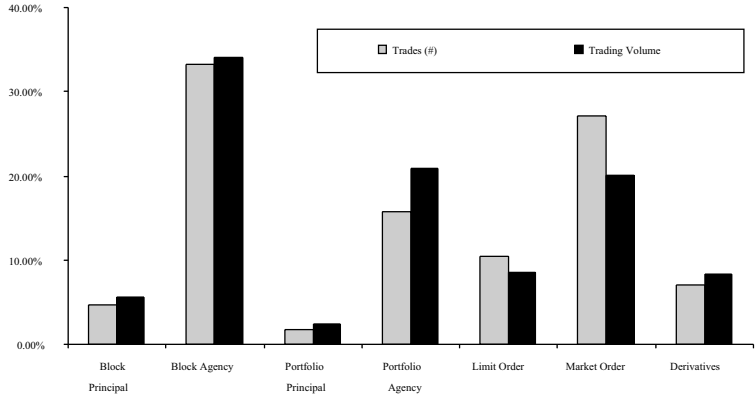

Figure 1: Investment styles of German investment companies (survey results)

Concerning execution practice we found 60% of the investment firms having a trading desk. Traders choose a variety of order types (see figure 2) and additional order instructions, like price and time limits as well as price benchmarks. We see that these order types are used strategically, e.g. firms with passive or quantitative investment styles execute orders using portfolio trades, while value style managers use agency block trades seeking to earn liquidity premiums from the market.

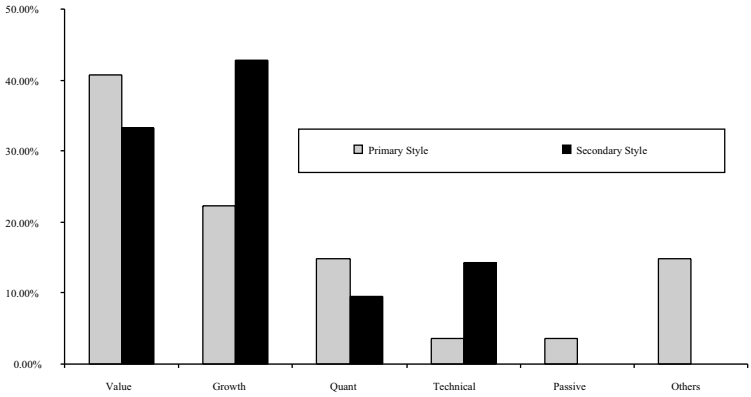

Figure 2: Order types used by German investment companies (survey results)

Another "German speciality" is that investment management firms are often owned by custodian banks. A conflict of interest might arise when the investment management firm executes their orders via the trading desk of that custodian bank. Indeed, on average we find that almost 40% of all stock trades are executed via the custodian bank (see figure 3).

Although investment companies are allowed to trade directly at the stock exchange (e.g. via XETRA), only 1,6% make use of this opportunity.

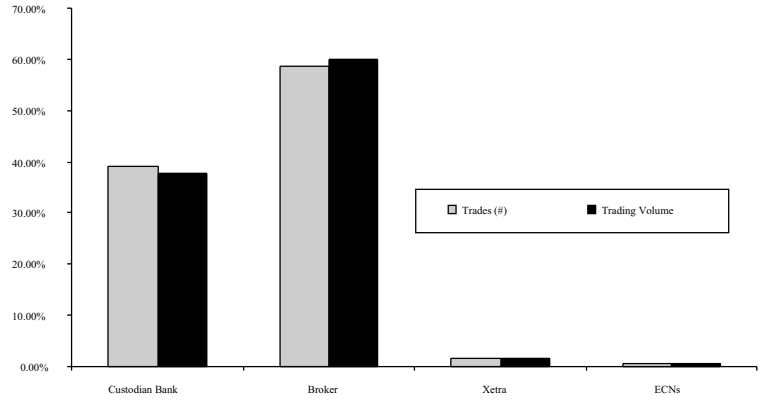

Figure 3: Trade execution routes of German investment companies (survey results)

Trading via the custodian bank does not necessarily yield in high transaction costs, although there might be some tendency within the community to subsidize the management fees which in the past have been far below international standards. However, in our survey we often observe low commissions for these trades and have so far no indication of bad execution or even misuse. But of course, adoption of disclosure rules in Germany, similar to those promoted by SEC and AIMR in the US, could deliver more transparency. Indeed, we expect these rules to come with a time lag of some years, as we experienced with the Performance Presentation Standards, leading the way to a more balanced structure of trade execution routes.

Empirical study of transaction costs

The average total transaction costs based on the estimations of the 27 interviewed investment firms is 62 bp for active mandates and 32 bp for passive mandates, which is quite low in both cases. Of course, the results of our survey can illustrate the structure of the investment process, the execution practice and the estimation of costs from the perspective of investment firms. But actual costs might deviate from these estimates to a large degree.
Therefore, in order to measure actual transactions costs in total and to analyse their components in-depth we are currently running an empirical study in close cooperation with altogether 9 well-established German investment firms. We received detail data for almost 10,000 real stock trades of the EuroStoxx 50 and Stoxx 50 universe, covering the time period August-October 2001. The data include different time data (e.g. time of investment decision, of broker release and of execution), gross and net prices and identity of brokers. With tick by tick prices and turnovers we can compute all components and total transaction costs and can evaluate the brokers' performance. The first results indicate total one way transaction costs averaging 80 bp. We will come up with more results in the course of 2002, which will then be presented to the German investment community. Anyway, in our business – giving high quality advice to institutional investors in Germany – best execution always has been an important issue, and it definitely will be in the future as well.

Finally, many thanks to the investment companies and their professionals for participating in our study and interviews, thereby proving their consciousness for the importance of best execution.

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Investors know Best

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Arthur Levitt, the former Chairman of the SEC, frequently referred to W. Somerset Maugham's saying that "It is a funny thing about life; if you refuse anything but the best you very often get it". Chairman Levitt's point was that, if the SEC continue to ensure that US professional market participants, particularly broker-dealers, persevere with developing the quality of their markets through competition and access to all, it will enable them to continue to provide best execution for investors.

From a European perspective I would like to spend a little time examining the growing demands of investors, the reaction of markets and the professionals within them, and the emergence of a new approach to trading among investment firms as investors themselves for the first time become the driving force for best execution. The result of this will be to suggest that such a paternalistic, regulatory-driven solution is not universally necessary for all investors.

The more sophisticated investor

In a single defined market environment, such as existed in the UK in the past, brokers had a reasonable grasp of what they ought to do to ensure that the best interests of the investor were served, as there were not many variables that the broker had to take account of, or that the investor was sensitive to.

In more recent times we have seen growing complexity in market structures as professional investors and sophisticated private ones become more aware of the true costs of trading. Instead of simply achieving the best price on the central market, investors are now also concerned about a variety of other aspects surrounding executing a trade. These constituents of overall 'trading costs' include commissions, market impact, anonymity, timeliness and many others. The relative importance of these varies from investor to investor

depending on their remit and trading style, and is a topic on which much interesting work is being generated.[1]

The result of the growing prominence being given to these investor concerns, is that there has been a growing power shift away from brokers to investors as to who drives best execution. It is now commonplace in the financial and wider press to read about pension funds demanding analysis of trading costs, or further discussion on the effects of the Myners' Report.

Reaction of the marketplace

The brokerage community has reacted to these new demands from investors with a plethora of innovations, including cleverer ways of measuring trading costs, providing different executions venues for different types of customer, separating the advising broker function from that of the dealer to avoid conflicts of interest, and a host of other initiatives.

As a result it is commonly thought that it is now harder for many retail and institutional investors to gauge whether or not they are receiving best execution. The sheer number of competitive options, without appropriate transparency, makes it impossible for all but the most experienced professional to know how best to cut trading costs.

The Regulators' response

In the past the single market structure and less sophisticated investor demanded that the regulator impose conditions on the brokerage community to protect them and to ensure that best execution was delivered.

In the new environment the reactions of regulators around the world have varied enormously. While some have deliberately not defined best execution and tried to manage the market structures, others have retained the ideal of a defined best execution (e.g. best price on market), let the markets develop through competitive evolution, but diluted the definition of best execution to reflect the increasing complexity, with the result that neither broker nor investor is convinced that the investors' needs are being adequately safeguarded.

What is 'best'

There are a number of conclusions that can be drawn from these developments. Some have argued that this new and irreversible complexity renders the concept of 'best execution' no longer workable, and that a fragmented world is incompatible with such a concept. At the other extreme, it has been argued that best execution remains a workable concept, as long as technology is used to maximise the cross fertilisation of trade information between execution venues. There are also many suggestions in between.

What seems incontestable is that we cling to the simple idea that there is something that is 'best' for us (perhaps the more so, the less sophisticated an investor we are), even if in the past we have not been entirely sure what that was. After all do the executing brokers, as agents of the investor, not have a fiduciary duty to act in the investors' bests interests?

What has become more complex is weighing up the relative importance of the various constituents. It is in this area that we have seen some interesting developments among the investor community in the way they trade and the mechanisms they use to achieve the 'best'.

Acting in the common interest

It cannot be doubted that technology has helped the investor, and is a key factor in the recent growing sophistication of investors, both institutional and retail. Investors are now becoming more able to understand for themselves what is most in their interests, or what is 'best', and are demanding more from their brokers. In addition the growing awareness of the relative importance of the constituents of best execution means that timeliness or immediate execution is only one of a number of factors to be taken into account in the trading process, and frequently not the most important; different investors have different motivations.

However the most significant change amongst sophisticated investors is not simply because of technological enablement; rather technology is the tool that has enabled investors to take matters into their own hands where current solutions prove unsatisfactory. Investors working together for their mutual

benefit is a relatively new phenomenon, inconceivable just a few years ago. Instead of merely being content with the services provided by the more traditional venues or the reassurance of the regulator's stamp of approval on what constitutes 'best execution', investors have begun taking matters into their own hands to ensure the 'best'.

An example of this in the European arena is the investment industry facilitation undertaken through the establishment by the largest European investors of E-Crossnet and its crossing network. This arose from the requirement for a cheaper method of trading, that preserved confidentiality, while being technologically efficient. The total confidentiality of the system is guaranteed by the use of technology to aid speed and reduce human intervention, and by the knowledge of participants that all the others using the system are like minded investors. Many execution venues claim anonymity, but they cannot give total confidentiality. As a result of this confidentiality investors are more likely to submit their full trading intentions to the crossing system, where they would not do so elsewhere, before trying more traditional venues.

Hierarchy of Trading

However there is more to these new developments than simply a buy-side crossing system as an isolated execution venue. What we are seeing is investors realising that they must manage their access to trading facilities more systematically. Many of the largest investors have organised their activities into a Hierarchy of Trading, starting with the most confidential venue being tried first, then to the less confidential etc. The information leakage from the latter entails compromising on some of the constituents of trading costs in order to achieve certainty of execution.

As a result investors have significantly reduced their trading costs, all but eliminated others (e.g. market impact) and created new liquidity, a feat that would not have been possible to the same degree had, for example, the E-Crossnet crossing facility been open to all market participants. However this is not to say that other groups of market participants could not produce systems to satisfy the particular elements of best execution that are most important to them. Each venue on the hierarchy of trading must be limited in its scope if it is to achieve the pure results that the investor requires; one size no longer fits all.

Regulators duties and paternalism again

With respect to the multiple venues now available, it is important not to confuse access to information, as in post trade transparency, (which the Regulators must do more to encourage) with access to trading (in this respect competition must be the key motivator to providing best service). Purity of trading solution often entails that access must be limited. This is something to be preserved as long as there is a sufficiently competitive environment for others to operate in, and technology is used to its utmost to ensure speed of movement between venues.

Therefore Regulators have two duties; firstly to provide such a competitive environment where investors can choose and have the power through worldwide communal action (in the case of the sophisticated investor) or through the regulator (in the case of the less sophisticated investor) to influence. Secondly they must ensure that investors do not receive poor execution (e.g. by full disclosure of processes, prices attained, commissions paid, and even lack of technology). Generally investors are not very interested in the process of executing trades; therefore regulators must ensure that this is an area they pay special attention to.

The role of the Regulators is, then, to be the sort of parent who provides an environment of opportunities in which their children can thrive, while also safeguarding the process by which they attain maturity. We are seeing the first signs of the new demanding and enlightened investor with the emergence of investor driven initiatives and hierarchical trading strategies. The more sophisticated investors no longer need to be told what to do or how or where to do it; they are growing up fast, refusing to accept anything but the best, and doing something about it themselves. This is something to be treasured and nurtured, rather than reined in.

[1] See 'The Art of Crossing' series of articles from E-Crossnet.

The cost-efficient and transparent way of portfolio restructuring: Transition Management

Charlie Shaffer & Thomas Strenge
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As asset managers and plan sponsors have grappled with the weakened global stock markets of the last two years, a great deal of attention has been focused on the transaction costs of portfolio restructurings. While the cost and risk of portfolio restructurings was often glossed over during years of 20% stock market returns, these costs and risks are now receiving far greater scrutiny. Accordingly, the investment community has developed an expertise to respond efficiently and manage the cost and risk of portfolio restructurings. This expertise is called Transition Management.

What is Transition Management?

Transition Management is the process of leveraging multiple sources of liquidity to efficiently re-position plan or fund assets. The process requires the Transition Manager to work closely with the asset owner to determine the optimal transition strategy and then efficiently execute the strategy in order to meet the asset owner's objectives. The most common objectives are reduced risk and reduced cost during the transition – as well as absolute transparency as to whether these objectives were met.

Reduced Risk

Historically, many plan sponsors and fund managers resigned themselves to taking a great deal of market timing risk during transitions. When confronted with an underperforming manager, the Plan would often instruct the terminated manager to liquidate his securities and then deliver the cash proceeds to the incoming manager. In most cases, this would mean that the liquidation proceeds would not be invested for at least 2-3 days – and in many

cases far longer. As daily market volatility has increased over the last five years (last year the FTSE 100 moved more than 1% on 103 days) this strategy created a tremendous risk versus the plan's benchmark. By utilising a Transition Manager, the Plan could mitigate, and often eliminate, this risk by engineering the transition so as to keep plan assets fully invested. Another important issue to take into consideration is the operational risk. In order to effectively reduce the cost and risk of the transition, the Transition Manager must be fully accountable for all administrative and operational issues. This includes coordinating all interactions among the Plan sponsor, custody banks, and terminated and incoming managers. By creating single party accountability for the entire transition procedure, Plan Sponsors are able to dramatically reduce the possibility of operational and administrative errors.

Reduced Cost

An essential step in cost reduction is the maximization of assets that may be crossed. By reducing the amount of shares that trade in the open market, plan sponsors can generally reduce the cost of their transitions. While there are exceptions (i.e. it is rarely worthwhile to significantly delay the transition to enable additional crossing), if a Transition Manager is able to source crossing liquidity without unnecessarily extending the transition time period, the Plan Sponsor generally reduces their costs significantly. This is true because crossed shares have no market impact and no commission.

By reducing the number of assets traded in the open market, an asset owner can generally reduce the expected cost of the transition. An effective Transition Management platform should include the following steps to reduce the number of shares traded in the open market:

In-Kind Transfers

- Transfer securities from legacy portfolio to fund destination portfolio
- Avoid trading assets to buy back common to the buy and sell portfolios

Crosses with Index Network

- Match buy/sell share positions with other side from passive and model driven portfolios.

Global Program Trading

Cross securities directly against the Global Program Trading book's natural flow.

Below is an example of a comparison of a non-managed transition to a managed one. In this case the sponsor chose to switch from a EAFE benchmark to a ACWI ex US (All Country World Index ex US) benchmark. Without a transition manager this trade would have triggered 400.000 EUR commission (even with a much reduced commission rate of 4 BP's) and 600.000 EUR market impact coming to a total of 1.000.000 EUR or 10 BP's across the portfolios. The transition manager can cross over 60%,

Non Managed Transition	**Legacy Manager**	**Destination Manager**
Value	500mm EAFE	500 ACWI ex US
Value Crossed	None	None
Value Traded	500mm	500mm
Commission (4bps)	200,000	200,000
Estimated Impact (6bps)	300,000	300,000
Estimated Cost	500,000	500,000
Estimated Total Cost	1,000,000 or 10 bps	

Managed Transition	**Legacy Manager**	**Destination Manager**
Value Crossed	320,000,000	320,000,000
Value Traded	180,000,000	180,000,000
Commission (4bps)	72,000	72,000
Estimated Impact (6bps)	108,000	108,000
Estimated Cost	180,000	180,000
Estimated Total Cost	360,000 or 3.6bps	

Estimated Savings from Transition 640,000 or 6.4bps

so the overall cost is reduced to 360.000 EUR or 3.6 BP's across the portfolios (144.000 EUR commission and 216.000 EUR market impact). In this case the savings are EUR 640.000 or 64% versus the non-managed transition.

The Transition Management process

The transition manager is chosen by the plan sponsor. As such, the Transition Manager's sole responsibility is to arrange and execute the transition in order to meet the plan sponsors clear objectives. Accordingly, the first step is the discussion of objectives between the sponsor and his transition manager:
Is it possible to keep the assets invested during the transition?

- What's the estimated Risk of Market Timing (i.e. the cost of upsetting asset allocation during the transition by being in cash)?
- Are there potential Crossing opportunities?
- How much would these opportunities reduce the estimated cost of the Transition?
- How will the custodian and new manager work with a Transition Manager?
- How can the sponsor tell whether the Transition Manager does a good job? Is it possible to have cost transparency and execution benchmarks for the Transition Manager?
- Who will be responsible for the cash flow management and settlement procedures? How much work will be required of the asset owner's staff?

The next step is the performance of a Pre-Trade Analysis. The Pre-Trade Analysis is the foundation of successful Transition Management. The Transition Management Platform ensures the asset owner that its pre-trade analytics will be thorough, unbiased and confidential. The data in the initial portfolio diagnostics includes:

- Liquidity analysis
- Market-Impact analysis
- Market cap and sector breakdown
- Index correlation
- Tracking vs. benchmark
- Volatility analysis

- Distribution of expected agency transition costs
- Currency/cash flow analysis
- Settlement analysis

After the initial Pre Trade analysis, the next step is the Decision Support Analytics (DSA).The purpose of DSA is to assist an asset owner in determining the optimal trading strategy. Generally, the analysis will propose one or more of the following execution methods:

- Principal bids
- Agency trading
- Disciplined crossing

An effective Transition Manager should be unbiased as to which strategy the asset owner chooses for a respective transition. DSA will provide the asset owner with the anticipated trading cost of the respective strategies. By providing DSA, the transition manager provides the asset owner with an objective, balanced framework for determining the most efficient transition strategy.

Because an effective Transition Manager is accountable for every phase of a Transition, the Transition Manager should be responsible for the creation of a Timeline and Responsibility Flow Chart to provide single party accountability across all phases of the transition to minimize operational risk and coordinate cash flow and settlement.

Conclusion

The use of Transition Managers by plan sponsors is growing dramatically. By providing clear, single party accountability for operations and administrative procedure, reduced risk and cost, and improved transparency as to cost and implementation shortfall, Transition Managers provide plan sponsors tremendous value. Nevertheless there are important differences between transition managers. Important information to request includes: global transition experience, full principal and agency trading capabilities, proven crossing network with guaranteed crossing amounts, administrative support, and explicit cost. By comparing Transition Managers in these important categories, a Plan Sponsor will be able to make an informed and carefully considered decision.

AIMR's contribution to the best execution debate: Soft Dollar Standards and Trade Management Guidelines

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According to a recent survey[1] on what investors value most about brokerage firms market making/execution comes in a penultimate 13 on the 14 points suggested way behind country/industry knowledge, trustworthiness, accessibility/responsiveness, independence from corporate finance, useful/timely calls, written reports, management access, stock selection, …

It therefore appears that investors essentially look to their brokers for research, market and security analysis and any type of input which may be distilled into alphas to be passed on to clients. At the same time, investors seems to be worried about their brokers ability to act solely in their best interest and therefore implicitly accept to pay a price for the independent service they ask for. That is well and good but investment managers know or ought to know that there may be a wide difference between paper alpha and real net alphas once all expenses have been factored in. Hence, the apparent benign neglect of execution services revealed by this survey is surprising.

The possibility that investment managers would not make their best effort to reduce transaction expenses because they use part of the brokerage commission to receive research or other services has led some to believe that having them pay for such services and pass on these additional expenses to their clients through an increase of their management fees would lead to a greater transparency and less conflicts of interests. Such a suggestion would substantially damage the "safe harbour" theory and yet would not ensure that best execution would be achieved since brokerage commissions represent the most visible but perhaps smallest element of overall transaction costs[2]. The

changing nature of stock markets, rise of alternative trading systems, development of derivatives, …has provided investors with more choice. The resulting competition has led to an overall decline of execution costs but also to greater difficulty in assessing its quality. Despite the challenge, more and more tools and services are now available to analyze and estimate the quality of execution.

The purpose of this article is to present some of the initiatives led by the Association for Investment Management and Research (AIMR)[3] to clarify the delicate matter of best execution: the *soft dollar standards* which clarifies the acceptable use of brokerage commissions above pure execution services and the *trade management guidelines* which aims to establish procedures demonstrating the investment manager's best effort to achieve best execution.

1) What are soft-commissions and how should investment managers deal with them?

Soft commissions related to a number of practices whereby the investment manager knowingly abandoned the pure pursuit of best execution. These practices ranged from clearly unethical commission recapture programs to arrangements or dealing practices whereby the execution cost covered not only pure execution but also other services which may or may not have contributed to the investment process.

To clarify how investment managers should deal with such matters, AIMRs took the initiative to draft *Soft Dollar Standards* as a guidance for ethical practice involving client brokerage.

AIMR's initial approach to soft dollar was based at a high level to develop and clarify the notion of "safe harbour" created by the US Congress in 1975 under section 28(e) of the Securities and Exchange Act of 1934 to protect investment managers from claims that they had breached their fiduciary duties by using client commissions to pay higher commission to acquire investment research than they might have paid for "execution" services only. Since then the "safe harbour" protection has been used to justify a great expansion of soft dollar services and use; it led to the unbundling of execution services with discount brokers offering third party research or services and the direction of brokerage

by clients to reduce their apparent operating expense. Some confusion resulted from such wide ranging practices which covered perfectly legitimate use of the exemption to much shadier practices.

The purpose of AIMRs Soft Dollar Standards is therefore to (i) define "soft dollars"; (ii) identify what is "allowable" research; (iii) establish standards for soft dollar use; (iv) create "model" disclosure guidelines; and (v) provide guidance for client directed brokerage arrangements. The AIMR Soft Dollar Standards are voluntary standards for AIMR members and AIMR. As all other AIMR standards, the AIMR soft dollar standards aim to set the highest professional standards and are advocated as such. Given the broad acceptance of other AIMR standards in the professional market place, it is fair to consider that AIMR Soft Dollar Standards constitutes a cornerstone element on this important subject and will gradually be recognized as such by all investment professionals.

The AIMR Soft Dollar Standards are based on the fundamental principle that brokerage is the property of the client and that the investment manager, as part of his fiduciary responsibilities, has an ongoing duty to ensure the quality of transactions effected on behalf of clients, including (i) seeking to obtain best execution; (ii) minimizing transaction costs and (iii) using client brokerage to benefit clients and disclose the procedures which have been set up to ensure this objective. The Soft Dollar Standards therefore set fundamental principles that an investment manager should consider when attempting to comply:

- "An investment manager is a fiduciary and, as such, must disclose all relevant aspects concerning the benefit the manager receives through its clients brokerage". The investment manager has therefore the discretion to use his client's brokerage as long as it is fully disclosed and with the sole purpose to benefit his client.

- "Proprietary research and third-party research are to be treated the same in evaluating soft dollar arrangements, since the research that the investment managers receives from each is paid with client brokerage". Soft dollar is strictly defined as the amount paid by the client above the cheapest price available for transaction only. It is not necessary for a third

party to be involved. Therefore, full service brokerage services including research will systematically qualify as a soft dollar arrangement. The standards do not suggest an unbundling of brokerage services but impose upon the investment manager to be accountable and therefore to have a better understanding of the different services purchased with client's brokerage.

- "Research should be purchased with client brokerage only if the primary use of the research, whether a product or a service, directly assists the investment manager in its decision-making process and not in the management of the investment firm." The soft dollar arrangement needs to cover research and not broad services which are typically considered as general overhead. Yet the research may take the form of a product or service which is a substantial element of the investment process such as a data subscription, software, …

- When in doubt, the research should be paid for with investment manager assets, not client brokerage." The standards are aimed to clarify the current practices and, while allowing soft-dollar arrangements by a clarification of the safe harbour principle, they place the burden of justification on the investment manager to show that his actions are consistent with the general principles of fiduciary responsibility.

2) What is best execution and how should trades be managed?

The standards on soft dollars have given guidance to investment managers in the way they can take into account research services when executing trades but a number of ambiguities and complexities surrounding the concept of best execution remained. AIMR has therefore commissioned a task force to draft the *AIMR Trade Management Guidelines* which are currently under review.

The Guidelines reaffirm that investment management firms have a fiduciary responsibility to act always in the best interest of their clients and to place the interests of their clients before their own and attempts to identify industry best practices to help firms meet this fiduciary duty. The Guidelines recognize the many complexities of the issue: definition of a single measurement basis on a trade-by-trade basis ex-post facto and therefore ex-ante, factors affecting the

way the trade should be executed (size, trading characteristics of the security, information availability, costs,…), purpose of the trade and possibilities to achieve similar investment objectives, specificity of trading pattern in relation to the investment process, necessary disclosures and documentation which could be produced by all firms. The Guidelines attempt to state broad principles and be sufficiently flexible to adapt to any firm's unique characteristics and circumstances.

The Guidelines recognize that the trade management function is an integral element of the investment process and that, when managing discretionary portfolios, investment managers need to assess the desirability of adding or deleting securities from portfolios after taking into consideration the overall expected transaction costs. It appears that "best execution" is perhaps a misnomer and attention should be focused instead on the proper integration of the trade management function within the investment process while clarifying the fiduciary responsibility implications. The US SEC had already stated that investment advisers have a duty to seek the most favourable execution terms reasonably available given the specific circumstances of each trade[4] and that best execution does not depend only on paying the lowest commission fee[5]. The Guidelines establishes that the concept of "best execution" parallels that of "prudent expert" in intent (attempt to minimize risk in a context of imperfect information) and practice (iterative learning processes which can be evaluated qualitatively for their internal consistency).

The Guidelines consequently define best execution as "well informed trade execution decisions made with the intention of maximizing the value of client portfolios under the particular circumstances at the time". "This definition recognizes that best execution:

- Is intrinsically tied to the portfolio decision value and cannot be evaluated independently;
- Is a prospective, statistical concept that cannot be known with certainty *ex ante*;
- Has aspects that may be measured and analyzed over time on an ex-post basis even though accurate measurement on a trade-by-trade basis may no be feasible; and
- Is interwoven into complicated, repetitive, and continuous practices and relationships that depend on trust and fidelity."

The Guidelines then establish the framework in which firms are encouraged to develop their own trade execution process. It suggests formalized processes, disclosures and record keeping procedures that together form a systematic, repeatable and demonstrable approach to show that best execution compliance is sought on a continuous basis. Adhesion to the Guidelines will offer clients a common presentation framework and to help them understand how their investment advisors deals with this potentially hot important issue and strengthen the trust relationship between them..

The processes suggested by the Guidelines are designed to ensure that trade management policies and procedures are established to maximize the value of client portfolios, to select brokers and develop an approved broker list, to evaluate broker performance and execution quality and to ensure that all clients are treated fairly in the execution of orders and allocation of trades.

The Guidelines state that firms should disclose their trade management practices as well as their actual or potential conflicts of interests to all current and potential clients. Firms should maintain meaningful and complete trading records. Adequate documentation will support the Firm's (1) efforts in seeking to achieve Best Execution for clients, (2) disclosures to clients, and (3) order routing practices to regulatory authorities.

Conclusion

AIMR' Soft Dollar Standards and Trade Management Guidelines offer investment firms a clear and consistent system to deal with the complex issues linked to trade execution. The Standards and Guidelines are inspired by a philosophy centered on professionalism and respect of fiduciary responsibilities which should ensure, if applied by investment firms, that self regulation offers the most efficient safeguards for investors. Its basic principles are effectively based on the necessity to offer the best service to the clients by optimizing the sources of value and minimizing the costs and risks. In summary, investment firms should determine Analyze the role of third party research and other broker services in the investment process and disclose them properly, analyze operational and compliance risks linked to execution and define procedures to minimize them, measure overall execution costs and define appropriate trading strategies and integrate the issue of implementation issues at all levels of the investment process.

[1] Institutional Investor, February 2002

[2] According to a recent study commissioned by the FMA the annual charges borne by a typical £ 200 million UK pension fund account with an estimated 40% annual portfolio turnover is 10% for soft commissions, 20% for stamp duty and sundry taxes, 24% for management fees and close to 50% for execution costs and market impact.

[3] AIMR is a non-profit professional membership organization with a mission of advancing the interests of the global investment community by establishing and maintaining the highest standards of professional excellence and integrity. More than 150.000 investment professionals are members of AIMR worldwide. AIMR is based in Charlottesville, USA. The "Soft Dollar Standards" and "Trade Management Guidelines" may be found on the AIMR web site at www.aimr.org.

[4] SEC Final Rule : Disclosure of Order Execution and Routing Practices, 17 C.F.R. pt. 240. Release No. 34-43590; File No. S7-16-00.

[5] SEC Final Rule : Order Execution Obligations, 17 C.F.R. pt. 240. Release No. 3235-AG66; File No. S7-30-95.

Exécution des ordres – Emergence d'une nouvelle valeur ajoutée: Préoccupations des acteurs, du régulateur à l'opérateur

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Quatre sujets sont au cœur des débats actuels sur le marché, ils concernent tous l'exécution:

- **Best execution**
- **Good execution**
- **Transaction cost analysis**
- **Rémunération**

Ils se déclinent de sujet conceptuel et réglementaire à sujet opérationnel, chacun déterminant le suivant:

- Ces sujets sont tous liés à la prise en compte des coûts de frottement liés à la mise en œuvre de la décision de gestion (Courtage, impact de marché, coût d'opportunité)
- Ces coûts sont de 2% en moyenne, ils vont de 1 à 15% de la valeur du vecteur d'investissement suivant sa classe de liquidité et la taille des ordres de bourse générés.
- Soit des montants de capitaux conséquents à l'échelle de l'industrie et surtout des différentiels de performance potentiels importants entre gestions.

L'exécution peut-être décrite comme étant la partie tactique de la décision de gestion, l'optimisation des informations de flux et de psychologie de marché

(La partie stratégique s'attachant aux aspects économiques et financiers du vecteur d'investissement).

Il y a en principe deux types d'exécutions génériques possibles (En dehors de raffinements tactiques): ordres actifs et ordres passifs.

- Un ordre actif correspond à une décision stratégique du gérant de modifier son exposition.

- La partie tactique (Exécution) sert à minimiser l'impact de marché et maximiser le rendement de la décision (Alpha).

- Un ordre passif est un ajustement nécessité par une modification du benchmark, un rachat, une souscription, ou un ajustement lié au niveau de cash. La partie tactique sert à minimiser la divergence entre le fonds et son benchmark. (Tracking)

- Dans le premier cas (actif), le benchmark est le prix au départ de l'ordre, corrigé éventuellement d'effets de tendance du marché.

  Le gérant choisit d'acheter ou vendre, entre autre à cause de la valeur du titre au moment de sa décision. La correction sert à ne pas avoir une évaluation trop optimiste si le gérant est contrarien ou trop pessimiste si il est trend following.
  (La société d'analyse de transactions Plexus mesure d'ailleurs le "style" du gérant en analysant les 10 jours précédant l'ordre).

- Dans le second cas (passif), le benchmark est la méthode de calcul de la valorisation du fonds Décision neutre, en particulier, lors d'une souscription ou d'un rachat, il faut dépenser ce que paye le porteur, ou lui verser ce que l'on reçoit du marché. Ceci peut être un cours d'ouverture, de clôture, ou toute autre méthode utilisée. Pour pouvoir faire la mesure, il faut fournir aux prestataires des fichiers de données complets.

  Au cours de cet essai, nous utiliserons la terminologie anglo-saxonne, celle-ci étant souvent à l'origine des débats et constituant la norme sur les marchés. La problématique sera posée du point de vue de la société de gestion et de ses clients.

Best execution

La « best execution » est l'objet de définition réglementaire sur tous les grands marchés. Ces définitions ont pour but de protéger le client final et d'assurer une normalisation du traitement des ordres afin d'éviter que les ordres soient, au mieux, traités sans diligence, au pire, ne constituent des sources de revenu cachées pour certains opérateurs (la volatilité et la difficulté sur certains marchés à collecter l'information sur les prix pouvant déterminer des qualités très variables de prix).

A l'origine, les définitions de la best execution concernent principalement les ordres de détail. Ces ordres pouvant être facilement absorbés par le marché, l'objectif est la protection de l'opérateur non professionnel.

C'est en cela que des contraintes de rapidité ont été les premières introduites:

"...as rapidly as possible"… Belgique
"...without delay..." Finlande
"...as fast as possible…"Hollande

Ceci permet au client d'avoir des chances de s'informer sur les conditions qui lui sont appliquées en tentant de limiter dans le temps cette collecte d'information.

Les ordres de taille institutionnelle ne pouvant être traités immédiatement sans faire violemment décaler les prix, ont amené à d'autres exigences:

"...best conditions of market feasability..." Portugal
"...best net price considering al the relevant circumstance..." USA

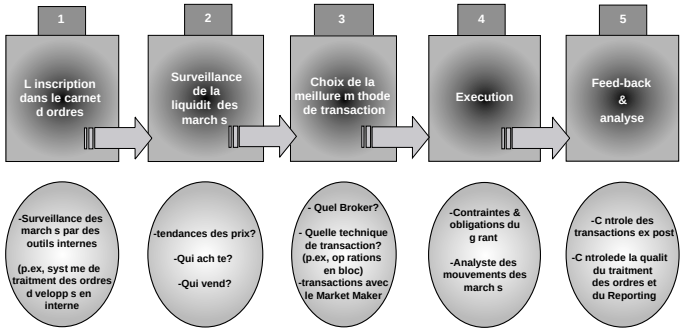
Dans tous les cas de figure, on voit le souci d'assurer que la meilleure diligence et les moyens ad hoc soient mis à la disposition de l'exécution.
La réponses aux exigences de la best exécution sont de fait des sujets organisationnels. Un process défini et auditable doit être mis en place pour assurer à la fois la compréhension et la transparence de la phase d'exécution des ordres.

Pour cela, les structures ont été modifiées, les entreprises d'investissement ont mis en place des «tables de négociation » qui ont eu pour but de répondre aux questions posées: séparation entre génération et exécution des ordres. Ceci ayant pour but d'optimiser la réponse déontologique et de mettre face au marché des opérateurs cumulant maîtrise technique et temps disponible.

Les gérants provenant souvent du métier d'analystes n'ont pas forcément cette expérience technique, et ils n'ont surtout pas, compte tenu de leurs tâches, de temps disponible pour un marché qui réclame surveillance constante et réactivité immédiate lors d'une exécution (200% d'augmentation des volatilités au cours des 5 dernières années, 500% d'augmentation des volumes sur la même période).

L' optimisation du process passe aussi par la mise en place d'un circuit informatique continu: le «STP» (Straight Through Processing) L'idée est de maximiser la continuité de la chaîne d'ordres et les contrôles afin de diminuer tous les coûts mécaniques (Erreur, délai trop important de transmission...)

Best Execution



Une fois la méthode et la tracabilité assurées (L'obligation de moyens) la société de gestion satisfait à la partie réglementaire et déontologique de ses obligations et se trouve en position idéale pour se concentrer sur la qualité en plus du process.

Good execution

La «good execution» est la notion de qualité. Il ne s'y attache pas d'obligation réglementaire ou déontologique, mais des impératifs commerciaux, les mauvais résultats faisant en général fuir les clients...

La négociation est partie intégrante du process d'investissement:

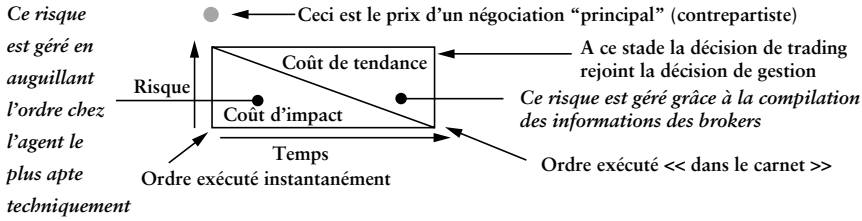
- Dans les gestions passives une «mauvaise exécution» augmente négativement la tracking error
- Dans les gestions actives, une mauvaise exécution diminue l'alpha.

La good execution dépends d'un certain nombre d'efficiences:

- Capacité à analyser les conditions de marché (Liquidité, volatilité..)
- Capacité à concentrer l'information, donc à entretenir un réseau cohérent d'informateurs (Liste brokers)
- Capacité à éviter de peser sur un marché, à ne pas être anticipé par des opérateurs concurrents

Les éléments permettant l'optimisation de l'exécution peuvent être résumés dans la matrice suivante:

Le coût d'impact est toujours négatif. Le coût de tendance peut être positif ou négatif.



La good execution devient un sujet d'intérêt de la part de tous les intervenants: les consultants qui il y a deux ans encore ne jetaient qu'un œil distrait à la partie négociation, introduisent désormais des batteries de questions sur la valeur ajoutée des tables. Aux USA certains mandats se gagnent spécifiquement sur les performances de trading.

Et surtout, la mesure même de la qualité d'exécution devient un sujet d'intérêt et de débat majeur sur le marché, de nombreux acteurs y mêlant leurs voix.

Transaction Cost Analysis

Le « TCA » est l'occasion de nombreuses réunions, séminaires, c'est aussi l'objet du développement de nombreuses initiatives.
(Auditeurs indépendants: Plexus – GSCS – ElkinsMcSherry – TAG... Sociétés de bourse proposant la mise à disposition de leurs modules d'analyse pre et post-trade, Calculs propriétaires par de rares sociétés de gestions...)

Il est utile de recadrer le sujet, qui parfois part dans d'étonnantes directions. (VWAP – OHLC)

Le coût de transaction est composé de deux, voire trois composantes

- Courtage et commissions
- Impact de marché
- Eventuel coût d'opportunité

Courtages et commissions sont explicites. Ils sont l'objet de l'expression du pouvoir d'achat des sociétés de gestions qui par la concentration d'ordres ont une fonction de centrale d'achats.

La mesure de qualité en tant que telle ne porte pas sur les courtages et commissions, en particulier parce que c'est la partie du coût qui n'est pas une réserve de performance, mais bien la rémunération des valeurs ajoutées des autres composantes.

Les besoins s'étant tout d'abord exprimé aux USA, les instituts et méthodes utilisées sont fortement conditionnées par les contraintes des marchés Anglo-saxons:

- marché dirigé par les prix,
- manque ou absence d'information sur la profondeur de marché,
- pratiques parasites: possibilité de traiter sur plusieurs exchanges, « late posting » (possibilité de retarder l'annonce de la transaction)…

Certaines observations de ces méthodes sont intéressantes: analyse du »style de gestion » par Plexus par exemple, c'est-à-dire de la tendance au moment du passage de l'ordre. (Ce qui permet de distinguer l'ordre contrarien de l'ordre tendanciel)

Cela dit, les analyses les plus courantes actuellement restent primitives, ou entachées de vices de construction:

OHLC (OpenHighLowClose), c'est-à-dire cours median auquel on peut appliquer une martingale: garder une partie importante de l'ordre pour le dernier cours…

VWAP (Cours moyen pondéré): ce n'est pas une mesure, l'exécution elle-même détermine le cours moyen pondéré, considérer le VWAP comme un benchmark constitue donc un non sens mathématique.

Mais surtout cela n'indique rien: le VWAP étant censé représenter le marché, le réaliser équivaut à passer un ordre « a tout prix » sur un marché de fixing (Si le prix obtenu est x% plus cher que la réalité du marché parce que les contreparties en ont tiré avantage, on n'en a aucune conscience...).

Pour utiliser une analogie, c'est comme si un régatier se contentait de suivre la direction du vent au lieu de la route de la régate.

Ce système n'en reste pas moins ardemment défendu par les opérateur manipulant de gros volumes: comme ils définissent le sens du vent, ils se comparent à eux même.. cynique, mais pratique…

En réalité, l'impact de marché a deux dimensions, l'une absolue, l'autre relative.

- **La dimension absolue est aussi appelée « slippage »** par les gestions de fonds de futures.

Il s'agit tout simplement de la différence entre le cours du vecteur d'investissement qui a servi à la décision (On utilise souvent le « pre-trade » price, cours du marché au moment du passage de l'ordre) et le cours d'exécution proprement dit.
Mathématiquement et factuellement, cette différence va diminuer l'alpha recherché par le gérant dans sa décision stratégique (ou l'augmenter, mais moins souvent...). **C'est l'impact de marché brut.**

Si X est le cours au moment de la passation de l'ordre et Y est le cours d'exécution,
le slippage « s « est: s =Y – X

Pour illustration, si un gérant anticipe une performance de 10% de son investissement sur un titre valant 100 et que la table de négociation a exécuté l'ordre à 101 selon les contraintes du marché, l'anticipation d'alpha se réduit à 9%.

- **La dimension relative est la différence entre l'anticipation du coût de frottement et le « slippage » réellement constaté.**

Ici, on anticipe, par calcul, le coût de frottement (statistiquement ou par extrapolation de la tendance)
Soit, dX

Il y a quatre «écoles» pour le calcul de dX:

- Comparaison avec des données historiques extraites d'une base de donnée d'exécutions réalisées,
- Formule basée sur analyse de liquidité et de volatilité,
- Extrapolation de la tendance passée sur une période équivalente à la durée théorique que devrait prendre l'exécution.
- Evaluation optionnelle du risque asymétrique que constitue un ordre (Un achat par exemple génère un put implicite)

Pour un achat, la qualité d'exécution q sera: q = dX – s

Pour illustration, si l'on pense ex-ante que le coût de frottement de notre investissement ci-dessus sera 1% et que la table de négociation achète à 100.8, la contribution qualitative de l'exécution sera de 20 centimes.

- **Cette mesure est la seule mesure possible de qualité d'exécution.**

Il est évident que sa validité ne pourra porter que sur l'analyse d'un échantillon relativement large de négociations.
La mesure étant relative, elle ne démontre pas la qualité d'une exécution isolée, mais bien d'une masse d'exécutions. La taille de l'échantillon réduisant les aléas de calculs individuels. Nous sommes face à un problème statistique, et non un calcul individuellement objectif.

Pour l'instant, cette approche est peu utilisée et ne fait pas encore l'objet d'un consensus de marché pour les raisons suivantes:

- Bases de données incomplètes chez les utilisateurs (Il faut des fichiers complets, contenant toutes les caractéristiques de l'ordre, en particulier tous les horodatages afin de pouvoir réellement analyser l'ordre et ses contraintes)

- Formule d'évaluation ex-ante du coût de frottement encore imprécise et sujette à débat.

La diversité actuelle des modes de cotation (Marchés dirigés par les ordres/par les prix, le tout avec un niveau de transparence et de publicité non homogène..) et l'absence d'historique suffisamment documenté ainsi que les problèmes de calcul rencontrés par les instituts d'analyse (Puissance de calcul, prise en compte des contraintes) expliquent en partie le retard technique du marché par rapport aux volontés affichées de quantifier la qualité d'exécution.

On peut cependant penser que l'évolution des capacités de traitement statistiques des données boursières, ainsi que la convergence des marchés vers un modèle de marché dirigé par les ordres à l'intérieur d'un carnet d'ordres électronique, vont permettre l'émergence d'un benchmark ex-ante qui permettra d'évaluer la valeur ajoutée (ou retirée) par l'exécution. Et donc de la justification auprès des clients finaux de la rémunération de cette valeur ajoutée.

On notera que certaines exécutions sont d'ores et déjà mesurable systématiquement: il s'agit des exécutions à contraintes, type rebalancement

indiciel, changement d'indice de référence, et toute autre ordre de gestion purement passif: il est plus facile de mesurer l'impact sur la tracking que sur l'alpha!

On les mesure en calculant l'écart entre le cours cible CC (cours utilisé pour la valorisation du fonds) et le cours réellement obtenu.

$$q = Y - CC$$

Par exemple, si le cours cible est le cours de clôture (mettons 105) et que le cours d'exécution est 104.4, la table aura contribué de 40 centimes

Cela dit les exécutions « passives » génèrent quelques « bruits » nécessitant une attention:

La gestion, est une prise de décision. Une prise de décision, c'est une différenciation par rapport à une situation neutre. La situation neutre, c'est le benchmark, son application systématique, c'est le fonds indiciel.
Pour qu'un gérant puisse dire qu'il gère, il faut qu'il puisse ne pas gérer. (Ne pas gérer c'est répliquer le benchmark**, ne pas investir lors d'une souscription est par contre une DECISION).**

Si le fonds utilise de mauvais prix pour faire face aux souscriptions/rachats (1), la performance du fonds va dévier du benchmark du montant de l'erreur de pricing multipliée par le flux net.

Si les investisseurs orchestrent leurs souscriptions/rachats parce qu'ils comprennent le sens de l'erreur de pricing, ou si les flux nets sont corrélés négativement avec l'erreur de pricing pour d'autres raisons(2), le fonds sous-performera son benchmark.

En (1), on voit une problématique affectant

- les fonds multi "time zone"

(Valorisation décalée par rapport aux mouvements du marché leader, marché US en principe: si la valorisation utilise la clôture du jour, et que le marché US a fortement baissé, la part japonaise n'a pas pris en compte cette baisse, et les

rachats se font au dessus de la valeur à laquelle le gérant pourra sortir)

- et les fonds small caps

(Titres très illiquides, dont la cotation, donc les derniers cours représentatifs ne représentent pas la réalité du marché: si un titre ne cote pas depuis 2 jours, mais que le marché a baissé, on aura pas systématiquement forcé le cours, et un rachat se passera au dessus de la valeur réelle du portefeuille par exemple)

En (2), **il s'agit du défaut de maîtrise de l'information de souscription/rachat par rapport au moment du calcul de la valorisation** (a), et/ou **calcul de la valorisation sur un cours de référence non réplicable** (b) essentiellement pour raisons de liquidité et essentiellement à cause de la passion française: le cours d'ouverture.

Dans le (a) **défaut de maîtrise**, la valorisation sera déjà passée quand le gérant aura l'information, classiquement il recevra des souscriptions dans un marché à tendance haussière, et aura donc une succession d'achat à réaliser AU DESSUS de la valeur de marché prise en compte dans la valorisation.

Dans (b) **la non-réplication**, la table ne pourra pas exécuter la totalité d'un ordre "neutre", et donc le fonds devra subir du risque de marché pour tout ou partie d'un ordre réputé ne pas en supporter.

Il est donc besoin d'une procédure maîtrisée de souscriptions/rachat (cours inconnu), associé à l'utilisation d'un outil de tracking des titres qui ne cotent pas en rythme avec le marché (Et la mise systématique en action du comité de calcul de "fair value" dans les cas repérés)

Comme il restera cependant une partie de risque de liquidité sur le marché:
Il faut contrôler des frais d'entrée/sortie: ceux ci constituent la prime d'assurance du gérant, il suffit de calculer la valeur de cette prime (comme on calcule la valeur d'une option).

On voit que l'impact d'exécution peut dépasser la simple transaction.

C'est d'ailleurs pour cela que l'évolution des tables de négociation les amène à être un pôle tactique à part entière dont les préoccupations dépassent le

marché et prennent une dimension transversale dans la société de gestion. Ces nouvelles sources de valeur ajoutées créent des coûts qui nécessitent rémunération

Rémunération

L'un des soucis premiers des régulateurs est la transparence (en fait l'identification et la compréhension par les clients finaux) de la rémunération de l'exécution.

On a beaucoup parlé en Europe du rapport Myners. Celui-ci a été fortement conditionné par les caractéristiques du marché anglais, marché dirigé par les prix, où des doubles, voire triples rémunérations peuvent coexister (courtage, écart de cours, soft commission…) rendant ainsi la rémunération complètement opaque et laissant les clients dans un doute très légitime quant aux frais réellement subits. Et également quant à leur justification en terme de valeur ajoutée.

Nous ne parlerons ici que de la part des frais couvrant les transactions (Les anglo-saxons réfléchissent de fait à un modèle séparant la rémunération de l'exécution, donnée assez facilement chiffrable analytiquement de la rémunération des études financières, ceci s'appelle le unbundling, mais est en dehors du périmètre du présent essai.)

La combinaison d'un calcul objectif, même si statistique et d'une facturation identifiée, négociable et justifiable telle que définie par la COB dans le 97-03 (commission de mouvements) constitue la réponse la plus claire à la problématique: le porteur de part est avisé des frais encourus, pourra à terme en mesurer l'impact comparativement aux prestations de négociation.

Dans le même temps, la société de gestion peut être rémunérée sur deux aspects: sa fonction de centrale d'achat (Comme dans l'industrie, ou la distribution, la capacité de concentration d'ordres est la résultante du succès commercial et est en droit de donner lieu à une marge commerciale) et sa valeur ajoutée dans l'exécution qui s'ajoute à la valeur des décisions stratégiques d'investissement.

La décision stratégique reste rémunérée par les commissions de gestion, fixes

et variables, la mise en œuvre tactique qui peut être un argument différenciant majeur étant elle rémunérée par la commission de mouvements, c'est-à-dire une facturation définie ex-ante, tout en restant révisable à échéances prévues.

Cette facturation ne peut être que variable par sa nature même et ses implications: les coûts et risques (compte erreur) sont effectivement proportionnels aux masses de capitaux manipulés lors des exécutions.

Il reste à bien identifier analytiquement les attributions de rémunérations afin que la société de gestion ne puisse être soupçonnée de « churning » (Rotation des actifs dans le but de produire de la commission). Le pôle stratégique (gérants) doit donc être exclu de tout bonus indexé sur la commission de mouvements et ceci doit être partie du règlement interne de la société de gestion.

Nous avons donc bouclé la boucle: au niveau pratique, les acteurs sont rémunérés d'une performance mesurée. Celle-ci est optimisée par des méthodes de trading qui sont elle mêmes mises en œuvre selon un process lisible et professionnel.

Il reste encore quelques temps de balbutiement à prévoir sur l'implémentation de cette logique, mais l'évolution de la technologie, associée aux pressions des régulateurs et aux impératifs commerciaux de qualité nous donnent une visibilité à court terme (un à deux ans) sur la matérialisation de la transparence dans le domaine de l'exécution.

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