



*A Research Study*

**The cost of access to real time pre & post  
trade order book data in Europe**

*A review of content fees within the wider context of data product,  
delivery and infrastructure costs*

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August 2010

## OVERALL OBSERVATIONS AND QUESTIONS RAISED

This report has been deliberately written as a primarily observational piece of work, as opposed to a commentary with a strong point of view. The emphasis is very heavily on facts and figures wherever they could be found. What these facts and figures mean is obviously very important - this report is designed to prompt further discussion, argument and clarification.

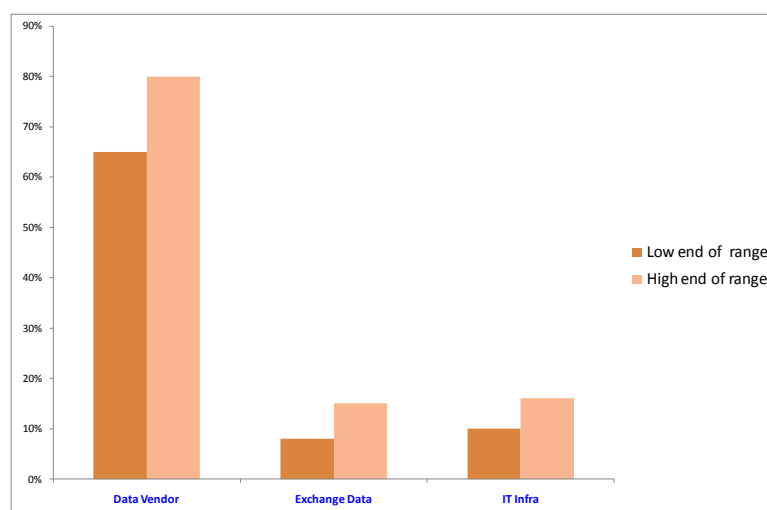
The facts and figures we have outlined represent a snapshot in time and given the recent crisis we have all lived through in the last two plus years (i.e. the Credit Crunch Crisis) and the changing regulatory environment prompted by MiFID and RegNMS back in 2007 it would be interesting to see how that has affected market data pricing and market data in general. On the subject of pricing trends, currency fluctuation between key currencies such as The Euro, The US Dollar and the British Pound have also had significant mathematical impact in recent years.

The ever changing nature of how markets do business, with the significant increase of more black box activities, might suggest some kind of statistical correlation analysis – a bit like *'Freakonomics'* - to ascertain what is the cause and what is the effect?

Market Data is often quoted as being a typical Bank's second largest expenditure item after Headcount/Payroll – this prompts ever greater need to study and understand the whys and wherefores of market data in all its manifestations – pricing being only one dimension, but an often overlooked and misunderstood one.

One key element within this report is our survey of consumer firms which enabled us to produce a high level ratio of expenditure between three elements.

|                      |                                |
|----------------------|--------------------------------|
| <b>Data Vendor</b>   | <b>range from - 65% to 80%</b> |
| <b>Exchange Fees</b> | <b>range from - 8% to 15%</b>  |
| <b>IT Infra</b>      | <b>range from - 10% to 16%</b> |



A key development in very recent months in Europe has been changes to market data fees introduced by various European Exchanges. Prior to these new fees for Last Trade prices a consumer firm would have needed to subscribe to a number of Level 1 type services to have sight of Last Trade prices.

***How much firms pay to see 95% of lit equity orderbooks in Europe -***

This report shows that a firm would have needed to pay just short of €200 per month to have sight of around 95% of lit equity orderbook trades, by € turnover. After the recent introduction of new fees for Last Trade services by various exchanges, a consumer firm can now gain sight of this same content by paying around €75 per month - a notable reduction. This observation poses the question - will other European exchanges follow suit and introduce 'Last Trade' services as well?

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## INTRODUCTION

For the purposes of this research report we are focusing on underlying market data services from data vendors, and exchange order book data content available via these vendors. This report also offers some high level discussion of the technology often deployed in connection with receipt of this market data.

This report is designed to be a very broad and high level description of some of the market data services on offer. This is NOT a comprehensive dissertation on the complete sweep of all market data pricing, as that would most likely stretch into hundreds of pages not the twenty or so of this report. All pricing descriptions are provided on a reasonable endeavors basis as in many cases

such prices change on a frequent basis and also many vendor firms tend away from transparency when it comes to their pricing. We hope that everyone find some nuggets of useful information within these pages whether they be small or large. If readers have any more detailed requirements for information or understanding please reach out to the author. Similarly if anyone has any comments or suggests to make this document more accurate and/or more comprehensive please feel free to contact the author [david.anderson@atradia.com](mailto:david.anderson@atradia.com). This report provides some updating on what was described and explained in the Exchange Data report of 2007 (*please request a copy if you do not already have access to one*).

This report is broken down into a number of sections:

**Section 1** –describes and explains the overall make up of market data expenditure and look at how exchange data fits in that broader context.

**Section 2** – looks at revenues earned from market data some of the key market data vendors

**Section 3** – describes the methodology employed in pulling together this short report, with special note given to attribution where other expert and specialist sources have been referenced.

## ABOUT THE AUTHOR

David Anderson, Director and Owner of Atradia Ltd ([www.atradia.com](http://www.atradia.com)) operates as a consultant in many aspects of the market data industry. With a career in market data starting with Telerate in September 1984 David has substantial experience and a wide range of contacts. This report is distributed free of charge with the obvious intent of demonstrating part of David's wide reaching knowledge and skills. David is always keen to expand his range of industry contacts so please feel free to contact him at [david.anderson@atradia.com](mailto:david.anderson@atradia.com). David is even keener to acquire new consulting projects and would enthusiastically welcome any contact on that basis.

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## SECTION 1 – THE CATEGORIES THAT MAKE UP OVERALL MARKET DATA EXPENDITURE

We concentrate on 3 broad categories that make up an overall market data spend.

1. Underlying market data vendor subscription
2. Discretionary/optional service data expenditure – primarily exchanges fees
3. Technology and Telecoms

### UNDERLYING MARKET DATA VENDOR SUBSCRIPTION

A recent report produced by Burton Taylor Associates shows total global market data revenues in excess of \$22 billion US dollars for the year ended 2009. Within this analysis, according to the Burton Taylor Associates report, Thomson Reuters and Bloomberg account for more than 60% of the market. The latest and the last IMD Reference market share figures relate to the year ended 2008 and still show Thomson Reuters and Bloomberg with in excess of 50% of the total market.

These two vendors account for a significant majority of the overall market. Further and more anecdotal study suggests that these two vendors are even more prevalent in front office positions and hence command an even greater market share of those positions. This observation is extremely pertinent as investigations conducted as part of this study, combined with the research author's 26 years experience in the market data industry, indicate strongly that front office positions are

significantly larger consumers (and therefore purchasers) of real-time market data and real-time (i.e. non delayed and streaming) exchange data.

Most market data and exchange data have two broad dimensions to pricing. The first part is a fixed element - in the sense that it is chargeable per client or more often per site. In the case of market data vendor charges this relates most often to data feed site charges based on items in a cache and per application type. Some exchanges quote a fixed charge per site or per client - with respect to exchange data this study will concentrate only on the variable element of pricing which is normally associated with users or physical terminals. We will not revisit the debate over unit of count as this was amply covered in the 2007 report (*still available free of charge on request*).

Before getting into the detail of some of Thomson Reuters pricing it is useful to explain some broad concepts and terminology. We must also clarify that this is only a partial view of Thomson Reuters pricing as they offer a massive range of products and services often with sophisticated and sometimes complex pricing models.

Thomson Reuters do maintain an underlying list price but these list prices are normally offered in various currencies; including the obvious GBP, USD and Euro. Due to the geographic and corporate diversity of where these products emerged from, different products would have been originally based in different currencies; however, at a point in time those prices would have been converted into alternate currencies. A point to understand here is that since those original currency conversions particular exchange rates may have strengthened or weakened; maybe many times over – as a result a product offered under different currencies may appear to be priced inconsistently across borders. This is not our understanding of Thomson Reuters' intent but simply a by product of currency fluctuations. We believe that global clients can elect to be billed in a single currency globally e.g. USD - if they wish for consistent product pricing across borders.

'Enterprise' is a word used in various contexts within Thomson Reuters. It is used to name one of Thomson Reuters Markets four divisions – the division that looks after products that address the whole of an enterprise rather than an individual user. They also use the word in the context of 'Enterprise License Agreements' (ELAs) which are large scale discount arrangements which tie in a particularly large scale expenditure for an equivalent large scale discount. The third way the word 'Enterprise' is used is to distinguish between the more collective or site based elements of a solution as opposed to the user workstation element.

We have touched upon the concept of bulk discounts which at the highest and bulkiest end come under Thomson Reuters Enterprise License Agreements (ELAs) but the most common form of client based volume discount is what has been called the RGA (as in the Reuters Global Agreement).

When applied this means that any consumer firm who spends, for example, between \$17.64 and \$19.27 million per annum would be entitled to a 17.1% discount on all Thomson Reuters list prices; Whereas a firm spending between \$7.35 and \$8.2 million would only obtain an RGA discount of 9%. There is whole table of different discount levels within the generic RGA program.

Thomson Reuters' pricing model, for what is arguably their flagship product - 3000 Xtra, is made up of a combination of elements however, the end user list price per user per month is currently around:

**3000 Xtra - £945 GBP or \$1,630 USD per month**

In the latter days of Reuters and most definitely in their current manifestation as Thomson Reuters there is no longer a published or public price list and hence these figures have been obtained

through anecdotal conversation. Thomson Reuters have been keen to promote “Enterprise License Agreements” with some of their larger accounts, in such agreements it becomes more difficult to extract an accurate per user per month amount for the underlying data subscription.

Anecdotal conversation would suggest that in many cases large customers who have negotiated mutually attractive deals and may be paying amounts more in the region of £500 (\$800) per month – but this cannot be formally verified. It would be reasonable to assume that a per unit, per month subscription cost of a Thomson Reuters could range between £500 (\$800) and £945 (\$1630).

Thomson Reuters also sell a variety of mid tier and lower end workstation offerings which would take their price point lower in some circumstances. These lower priced solutions are typically pitched to customer groups with a less demanding requirement perhaps mid or back office or perhaps clients who are more retail/wealth management oriented. Key mid to low tier Thomson Reuters products include Thomson Reuters Trader, Thomson Reuters Knowledge, Thomson Reuters Wealth Manager and various Thomson One offerings.

As this report focuses predominantly on real time market data services it is also worth mentioning Thomson Reuters Datafeeds with branding either as Reuters Data Feed(RDF) or Reuters Datascope Real Time(RDRT). Thomson Reuters operate two broad elements to their datafeed pricing.

Firstly, if their clients want to implement a pure human user only solution then Thomson Reuters will provide a fully packaged 3000 Xtra at the price points already mentioned. A key point to understand is that these packages include a bundle of services **including** an underlying per user data access charge, an element that relates to the desktop software (e.g. components like Kobra and PowerPlus Pro etc. Please note - these products are no longer marketed separately) and an element that relates to the data cache of the datafeed for that site. This new all-in package price has been very deliberately designed to provide a simpler price point option for customers whereas previously the final/total price required quite a complex calculation.

However, calculations still do exist in the world of Thomson Reuters datafeeds. If a customer wishes to use a Thomson Reuters datafeed to feed an application rather than a human user then a different pricing model applies.

The main elements of this model are that a client must determine and identify what type of application is being fed by a datafeed. Thomson Reuters defines a number of ‘Business Application’ types. Customers must calculate how many instruments are being deployed in each Business Application type and pay a subscription fee based on this calculation – a fee is applicable for each Business Application type deployed. In addition to these instrument charges a ‘View’ charge is also applicable if a human user is accessing Thomson Reuters data via one or more of these applications.

Reuters Datascope Real Time principally targets the following four Business Activities out of the twelve in existence:

- Programmatic/ Automated Trading
- Market/ Credit Risk



- Instrument Pricing
- Portfolio Management and Valuations

Other business activities as defined in the Reuters Business Principles (RBP) under 'Enterprise' are currently being excluded from use of real-time data.

The base list price per unique instrument per Business Activity in GBP is currently £10 per month. However, Thomson Reuters operates a sliding scale of discounts (i.e. the more you buy the less you pay per instrument) based on the number of instruments used. In addition to there being an instrument pricing dimension Thomson Reuters also apply a price per View. The baseline List Price in GBP for this is currently £120. However, a sliding scale of discounts applies here as well (i.e. the more viewers are added the less is paid for each viewer).

**Thomson Reuters 12 Business Activities as defined in Thomson Reuters Business Principles:**

- *The **Market/Credit Risk** business activity allows Users to:(a) Redistribute Derived Data in the form of values generated through market or credit risk calculations in reports to regulatory bodies and/or external auditors; and (b) Distribute Information and Derived Data to other Users in connection with market/credit risk activities.*
- *The **Portfolio Management and Valuations** business activity allows Users to: (a) Redistribute Information and/or Derived Data in the form of portfolio valuation calculations in system generated reports to third party performance trustees, investors, custodians, regulatory authorities and/or the media through which Client's portfolio statistics are reported for marketing purposes; and (b) Distribute Information and Derived Data to other Users in connection with portfolio management and valuations activities.*
- *The **Fund Administration** business activity allows Users to:(a) Distribute Information and Derived Data to other Users; and (b) Redistribute Information and/or relevant Derived Data in statements, notices, reports, documents and other similar communications to Client's Customers, in each case, in support of fund administration activities and/or to regulatory authorities as required by law.*
- *The **Back Office** business activity allows Users to: (a)Redistribute Information and Derived Data for the purposes of confirming transactions post-trade and resolving any problems related to transaction confirmation and settlement in reports to clearing houses, counterparties, custodians and/or Client's Customers; and (b) Distribute Information and Derived Data to other Users in connection with back office activities.*
- *The **Quantitative Analysis** business activity allows Users to: (a) database and screen Information to build computer based statistical and valuation models, perform backtesting, attribution, trend analysis and measurement; (b) integrate Client's own proprietary data; and (c) create Derived Data, in each case solely in connection with developing investment/trading strategies. This business activity does not permit Users to use the Information or Derived Data for the Programmatic/Automated Trading business activity or the Proprietary Programmatic Trading business activity.*
- *The **Research and Analysis** business activity allows Users to: (a) Redistribute graphical images or charts. If Information is presented in tabular form, it may display no more than 250 data points of the Information; and (b) Distribute Information and Derived Data to other Users in connection with research and analysis activities, provided that the Users are not permitted to use the Information or Derived Data for the Quantitative Analysis business activity.*
- *The **Compliance, Accounting and Auditing** business activity allows Users to Redistribute Information in reports to regulatory agencies as required by law or regulation and Distribute Information to other Users in connection with internal compliance.*
- *The **Instrument Pricing** business activity allows Users to: (a) Distribute and/or Redistribute Derived Data related to the structuring or pricing of any type of financial instrument or derivative to Client's trading partners; and (b) Distribute Information to other Users in connection with instrument pricing activities.*
- *The **Programmatic/Automated Trading** business activity allows Users to: (a) use Information to trigger the creation of order execution instructions or alerts which can be systematically Distributed and/or Redistributed; and (b) Distribute Information to other Users in connection with programmatic and automated trading activities.*

- The **Proprietary Programmatic Trading** business activity allows Users to: (a) filter or extract portions or complete news items of Information (including metadata) for the purpose of testing correlations and building statistical and trading models; and (b) create Derived Data from the news items of Information, in each case solely in connection with developing investment/trading strategies and running programmatic/automated trading models on any system (individual or shared) that generates automated trading orders for Client's own funds.
- The **Programmatic Risk Management** business activity allows Users to: (a) filter or extract portions or complete news items of Information (including metadata) for the purpose of testing correlations and building statistical and trading models; and (b) create Derived Data from the news items of Information, in each case solely in connection with generating automated market or credit risk calculations to support programmatic trading solely for Client's benefit.
- The **Index Calculation** business activity allows Users to: (a) use Information to calculate Client Indices and Client Customer Indices, and (b) Distribute and Redistribute such Indices. Any Distribution, Redistribution or marketing of Client Indices and/or Client Customer Indices shall, wherever technically possible, include the following accreditation: "<xxx> index powered by Thomson Reuters Information".

All of this pricing discussion completely eschews a vast range of products that Thomson Reuters offer in more specialist areas and for non real time data. These are beyond the scope of this report.

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## BLOOMBERG

Bloomberg have a simple pricing model. They have been noted as being very firm on the issue of discounting, put simply they do not appear to offer percentage discounts. This is a little misleading as anecdotal conversation suggests that deals have been struck relating to free months and free terminals when very large quantities have already been subscribed to (e.g. saturation deals). These discount-like techniques are mentioned in the spirit of full disclosure; however, this report is comfortable to proceed on the basis that Bloomberg Terminals are broadly sold at list price.

A current list or standard subscription for a **Bloomberg professional** is **\$1,900** per month and **\$1,590 per month** for additional quantities.

Some clients may be paying lower amounts for some positions as price increases are not immediately applied to existing installed terminals. Bloomberg only offer a “high end” market data terminal and therefore we can draw a line under the workstation pricing that has just been described.

In recent years Bloomberg have ventured into the world of Datafeeds with their B-Pipe and even more recently their B-POD (B-Pipe on demand). Over the last few years Bloomberg operated a reasonably transparent and simple pricing model, although some anecdotal evidence suggests their stance may have sifted in recent months. The pricing model that had been in place for some months seems to have comprised of three elements all in USD and per month:

Firstly, a charge based on the total number of **Data Items** –

|                          |          |
|--------------------------|----------|
| 5,000 Items =            | \$5,000  |
| 10,000 Items =           | \$7,000  |
| 50,000 Items and above = | \$16,000 |

Secondly, a **User charge**, only applicable for non Bloomberg Professional users –

|                   |               |
|-------------------|---------------|
| First 100 Users = | each at \$400 |
| Above 100 Users = | each at \$200 |

Thirdly, a charge **per black box/algo type application**

|                              |
|------------------------------|
| \$2,000 for each application |
| Up to a maximum of \$20,000  |

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## OTHER VENDORS

It seems clear that a significant majority of customer expenditure on real time data is spent on a combination of Thomson Reuters and Bloomberg. Other vendors tend to operate either in very specialist niche or at a somewhat lower price point. As we have made clear throughout this report we do not present this report as a comprehensive description and discussion of every aspect of market data. This next short sub section highlights a few of the other vendors.

### Interactive Data

Since the merger of Reuters and Thomson Financial in straightforward total market share terms Interactive Data is probably the vendor in third place. However, a substantial part of their revenues and activities are focused at more reference data solution i.e. not the real time space that this report focuses on.

Interactive Data's real time offerings fall under two types:

Firstly, having acquired Comstock from S&P some years ago they have long been in the Datafeed business. This has matured into a range of different datafeed solutions some now in the Ultra Low latency space as seen with their acquisition of 7ticks. Interactive Data appears to have been very careful and very deliberate in not pitching a specific price list for their datafeeds. They have been very flexible and willing to create highly tailored and bespoke offerings at bespoke prices. In simple terms they have pitched their datafeeds at a price point lower than Thomson Reuters, sometimes significantly lower.

Secondly, and quite recently, they have moved into a position where they also market workstation solutions. One part of this has come as a result of their acquisition of the Chicago based Futuresource and this generates workstation offerings aimed at the Commodities and Futures markets - at a price point of around **\$225 to \$350 USD per month**. The other part comes from their acquisition of Germany's IS Teledata and from this part of their business they market a desktop container at a price point of around **€250 Euro per month** into which different exchange packages can be displayed.

### FactSet

FactSet have historically been very oriented towards the Buy Side offering more of a research tool. A traditional FactSet runs at about \$ 6,000 per desktop per year, but that is without the underlying 3rd party non real time database add-ons, which FactSet charges additionally for. \$6,000 gets a customer equity pricing and price history and core fundamentals. If a customer got all the add-on databases available it could run to about \$750,000 per annum – please note this is non real-time data base access. The additional databases that could be subscribed to in order to get up to this example of \$750K pa come from FactSet's own pool of databases and a raft of other third party databases that FactSet acts as a distributor for. For the purposes of clarity these should not be confused with the add on charges many vendors, including FactSet, apply on their real-time products for delivering real-time exchange data.

They have now also entered the "real time" market which this report is focussed on and here they offer up an alternative to Bloomberg and Thomson Reuters more in the **\$400-\$500 range per month** as a terminal product

### **Morningstar**

Chicago based Morningstar bought UK based Tenfore recently which gave Morningstar a Datafeed based entry point into Institutional clients. Previously Morningstar had been significantly oriented to the retail markets.

This new manifestation enables Tenfore's datafeed offerings to be marketed with the full weight of the Morningstar balance sheet and corporate marketing machine. It gives this new entity a workstation offering as well.

No specific price point information has been obtained although it is clearly understood that their offerings would be pitched at a price point to undercut vendors like Thomson Reuters. Morningstar base their pricing on two broad approaches a customer can either elect to take packages of data e.g. specific exchanges in the entirety or customers can elect to purchase a certain quantity of instruments/symbols.

### **Sungard**

Sungard real time market data offerings are delivered under their Market Map brand which is at the moment predominantly a workstation. However, Sungard are also expanding into the datafeed world. Born out of first Infotec from Switzerland that was in turn acquired by Paris based GL Trade that was recently acquired by Sungard.

Market map is offered at broadly tow price points – a higher end full version at €500 per month and a lower end version with significantly reduced functionality at €250 per month.

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#### IN SUMMARY – UNDERLYING MARKET DATA PER USER SUBSCRIPTIONS:

Please note this is for REAL-TIME subscriptions per user per month in USD.

|            |                           |                         |
|------------|---------------------------|-------------------------|
| HIGH LEVEL | <i>upper band</i> \$1,600 | <i>lower band</i> \$800 |
| MID LEVEL  | <i>upper band</i> \$600   | <i>lower band</i> \$350 |
| LOW LEVEL  | circa \$200               |                         |

## DISCRETIONARY/OPTIONAL SERVICE DATA EXPENDITURE – PRIMARILY EXCHANGES FEES

Two very operative words have been employed in this sections title – ‘discretionary’ and ‘optional’. The key point is that in the vast majority of cases these services are added on top of an underlying market data service. We say in most cases because in some instances a user firm may have deployed a direct feed solution to receive data from an exchange. This has normally occurred as that customer, or more precisely a specialist group within a customer firm, wants to obtain advantage by accessing very (or probably ultra) low latency data.

Exchange fees are a significant part of discretionary/optional expenditure but other services can be added to an underlying market data service, such as specialist commentary and analytics. This report does not provide any kind of analysis of these other third party optional services choosing to focus on Exchange Data. In addition this report does not provide any insight on the market data provided by Inter Deal Brokers (IDBs) such as ICAP, Tullett Prebon, BGC and GFI.

Real-time Exchange Data fees are applied to data services provided on top of the baseline market data service and they include post trade last trade data – this is most commonly referred to as ‘Last Trade’ data, pre trade quotes and orders which are normally split between Level I which typically includes only the single best bid and offer price – sometimes colloquially referred to as BBO or top of the order book, and Level II which typically includes some form of depth of order book, we say ‘some form’ because exchanges vary how much depth they offer and some have more than one choice about how deep a customer wants to look. Exchange data is typically provided free of charge from many exchanges if it has been delayed by more than 15 minutes.

In this report we only take a high level view of Exchange Fees focusing solely on Last Trade and Level 1 data.

## NORTH AMERICA FEES

| Exchange                       | BBO and Last   | Euros          |
|--------------------------------|----------------|----------------|
| NYSE CTA ( Tape Network A)*    | \$39.75        | € 30.77        |
| NYSE Amex CTA (Tape Network B) | \$31.20        | € 24.15        |
| Nasdaq UTP (Tape Network C)    | \$20.00        | € 15.48        |
| <b>US Sub Total</b>            | <b>\$90.95</b> | <b>€ 70.40</b> |
|                                |                |                |
| TMX                            | \$58.00        | € 44.89        |
| Mexico                         | \$24.60        | € 19.04        |

\* based on 6 to 9 accesses, however, in many soft dollar situations (which are very prevalent) a considerably larger fee is applied.

**Note: While the North America 'consolidated tapes' relating to Networks A, B & C may offer separate technical delivery channels to receive pre and post trade content, the above pricing in respect of these tapes shows that, outside of Tape B where last trades and bid/ask offerings are clearly separated, 'Last Trade' is only available within the 'BBO' price tier, and not separately.**

## LAST PRICE ONLY FOR MAJOR EUROPEAN EXCHANGES

|                         | Euro   | European Equities T/O Lit Order Book April 2010 |
|-------------------------|--------|---|
| LSE Group               | € 22.5 | € 143,835,820,888                               |
| Euronext (NYX)          | € 16.0 | € 123,564,286,095                               |
| Deutsche Borse*         | € 15.0 | € 100,805,655,759                               |
| Nordic (Nasdaqomx)      | € 15.0 | € 52,804,097,830                                |
| BME (Spanish Exchanges) | € 2.5  | € 40,378,971,702                                |
| *estimated              | € 75.0 | € 461,388,832,274                               |
| % of Total              |        | <b>65.97%</b>                                   |
| Total                   |        | € 699,372,487,248                               |

Lit order book turnover (April 2010) - Source Thomson Reuters

In April 2010 - according to data sourced from Thomson Reuters European market share analysis - The various MTFs - Chi-X, BATS Trading Europe, Turquoise, Nasdaq OMX Europe, NYSE Arca Europe and Burgundy accounted for another \$208 Billion which represents another nearly 30% of total turnover. **Therefore more than 95% of last trades are now provided at a price of around €75 per month.** As can be seen in the table above, to receive similar content in North America the price is roughly €70.40. This is a new price point comparison as a number of European exchanges have recently introduced unbundled and significantly lower priced options for last trade data throughout July and August 2010.

## EUROPEAN FEES ALONGSIDE LIT ORDER BOOK TURNOVER

| Exchange                | Level 1               | European Equities T/O Lit Order Book April 2010 | % share | Cumulative % | Cumulative € |
|-------------------------|-----------------------|---|---------|--------------|--------------|
| London SE               | € 45.5                | € 143,835,820,888                               | 20.57%  | 20.57%       | € 45.5       |
| Chi-X                   |                       | € 135,977,228,136                               | 19.44%  | 40.01%       | € 45.5       |
| Euronext (NYSE)         | € 59.0                | € 123,564,286,095                               | 17.67%  | 57.68%       | € 104.5      |
| Deutsche Borse          | € 56.0                | € 100,805,655,759                               | 14.41%  | 72.09%       | € 160.5      |
| Nordic (Nasdaqomx)      | € 19.0                | € 52,804,097,830                                | 7.55%   | 79.64%       | € 179.5      |
| BATS Trading Europe     |                       | € 42,010,550,480                                | 6.01%   | 85.65%       | € 179.5      |
| BME (Spanish Exchanges) | € 12.5                | € 40,378,971,702                                | 5.77%   | 91.42%       | € 192.0      |
| Turquoise               |                       | € 20,838,258,507                                | 2.98%   | 94.40%       | € 192.0      |
| Oslo                    | € 35.3                | € 14,225,740,436                                | 2.03%   | 96.44%       | € 227.3      |
| NasdaqOMX Europe        |                       | € 5,654,825,030                                 | 0.81%   | 97.24%       | € 227.3      |
| Athens                  | € 7.0                 | € 4,065,981,022                                 | 0.58%   | 97.83%       | € 234.3      |
| Warsaw                  | € 35.0                | € 3,796,581,917                                 | 0.54%   | 98.37%       | € 269.3      |
| Vienna                  | € 30.0                | € 3,316,339,366                                 | 0.47%   | 98.84%       | € 299.3      |
| NYSE Arca Europe        |                       | € 2,520,749,979                                 | 0.36%   | 99.20%       | € 299.3      |
| Budapest                | € 10.0                | € 1,832,943,220                                 | 0.26%   | 99.46%       | € 309.3      |
| Burgundy MTF            |                       | € 1,769,380,172                                 | 0.25%   | 99.72%       | € 309.3      |
| Prague                  | € 10.0                | € 805,471,864                                   | 0.12%   | 99.83%       | € 319.3      |
| Irish                   | € 12.0                | € 497,968,732                                   | 0.07%   | 99.90%       | € 331.3      |
| TLX spa                 | € 4.0                 | € 292,041,128                                   | 0.04%   | 99.95%       | € 335.3      |
| Bucharest               | € 10.0                | € 145,140,317                                   | 0.02%   | 99.97%       | € 345.3      |
| Cyprus                  | € 2.63                | € 55,357,395                                    | 0.01%   | 99.97%       | € 347.9      |
| Ljubljana               | € 10.0                | € 42,045,522                                    | 0.01%   | 99.98%       | € 357.9      |
| Baltic (Nasdaqomx)      | € 14.0                | € 39,564,966                                    | 0.01%   | 99.99%       | € 371.9      |
| Nordic Growth           |                       | € 32,381,996                                    | 0.00%   | 99.99%       | € 371.9      |
| Bulgarian SE            | € 0.0                 | € 25,519,901                                    | 0.00%   | 99.99%       | € 371.9      |
| Belgrade                | € 0.0                 | € 13,647,970                                    | 0.00%   | 100.00%      | € 371.9      |
| Equiduct                |                       | € 13,083,797                                    | 0.00%   | 100.00%      | € 371.9      |
| Luxembourg              | € 30.0                | € 12,317,272                                    | 0.00%   | 100.00%      | € 401.9      |
| Bratslava               | € 8.0                 | € 535,849                                       | 0.00%   | 100.00%      | € 409.9      |
|                         | <b>TOTAL Turnover</b> | <b>€ 699,372,487,248</b>                        |         |              |              |

### Lit order book turnover (April 2010) - Source Thomson Reuters

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\* NasdaqOMX Europe has withdrawn from the market since April 2010. \*\*Swiss Exchanges and Johannesburg SE are not included in this pure EU analysis.



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OVERVIEW OF EUROPEAN EXCHANGE FEES

| Exchange                | Last Trade   |             | Level 1      |             |
|-------------------------|--------------|-------------|--------------|-------------|
|                         | <i>local</i> | <i>Euro</i> | <i>local</i> | <i>Euro</i> |
| Euronext (NYX)          | € 16         | € 16.0      | € 59.0       | € 59.0      |
| Deutsche Borse*         | € 15         | € 15.0      | € 56.0       | € 56.0      |
| London SE               | £15          | € 18.5      | £37          | € 45.5      |
| Oslo                    |              |             | kr 280.0     | € 35.3      |
| Warsaw                  |              |             | € 35.0       | € 35.0      |
| Vienna                  |              |             | € 30.0       | € 30.0      |
| Luxembourg              |              |             | € 30.0       | € 30.0      |
| Nordic (Nasdaqomx)      | € 15         | € 15.0      | € 19.0       | € 19.0      |
| Plus Markets            |              |             | £15          | € 18.5      |
| Baltic (Nasdaqomx)      |              |             | € 14.0       | € 14.0      |
| BME (Spanish Exchanges) | € 2.5        | € 2.5       | € 12.5       | € 12.5      |
| Borsa Italiana          | € 4.0        | € 4.0       | € 12.0       | € 12.0      |
| Irish                   |              |             | € 12.0       | € 12.0      |
| Swiss                   |              |             | fr. 15       | € 11.3      |
| Prague                  |              |             | € 10.0       | € 10.0      |
| Budapest                | € 6.4        | € 6.4       | € 10.0       | € 10.0      |
| Ljubljana               |              |             | € 10.0       | € 10.0      |
| Bucharest               |              |             | € 10.0       | € 10.0      |
| Bratslava               |              |             | € 8.0        | € 8.0       |
| Athens                  |              |             | € 7.0        | € 7.0       |
| German Regional         |              |             | € 6.0        | € 6.0       |
| Stuggart                |              |             | € 5.0        | € 5.0       |
| Sarajevo                |              |             | € 5.0        | € 5.0       |
| Banja Luka              |              |             | € 5.0        | € 5.0       |
| TLX spa                 |              |             | € 4.0        | € 4.0       |
| Cyprus                  |              |             | € 2.63       | € 2.63      |
| Bulgarian SE            |              |             | 0            | 0           |
| Belgrade                |              |             | 0            | 0           |
| Zagreb                  |              |             | 0            | 0           |

## ADMINISTRATION MARK UP ON EXCHANGE FEES BY MARKET DATA VENDORS

This is a highly complex area with confusing calculations. The key point here is that several market data vendors apply significant administration mark up fees that are applied on top of exchange fees. These vary between apparently straight forward percentage mark-up through to combinations of mark-up and currency conversions. These fees vary depending on whether a customer firm is taking advantage of a direct billing arrangement or still billing indirectly via the market data vendor. Mark-up range between 5% from vendors like Sungard and Interactive Data, and *broadly* 6% from Thomson Reuters (*note: we believe there are some variations on this flat mark up of 6%*).

In some cases, for at least one vendor, mark up has been seen up to and in excess of 30%. Some of these high percentages which have been noted relate heavily to fluctuations in currency conversion rates. Further study of this rather opaque and confusing area of market data charging is perhaps warranted if there is a demand for a follow up report (or reports).

Examples of Bloomberg exchange fee mark up (*at time of going to print please note that Bloomberg alter these rates on an intermittent basis*).

| Exchange                    | Level 1 fees from Exchange | Bloomberg USD Fees | Bloomberg fees in Euro | Difference between Bloomberg and Exchange | Difference as % |
|-----------------------------|----------------------------|--------------------|------------------------|---|-----------------|
| Euronext Equities (NYX)     | € 59.00                    | \$85.00            | € 65.79                | € 6.79                                    | 11.51%          |
| Deutsche Boerse Xetra Ultra | € 64.00                    | \$108.00           | € 83.59                | € 19.59                                   | 30.61%          |
| London Stock Exchange       | € 45.50                    | \$77.00            | € 59.60                | € 14.10                                   | 30.98%          |
| Nordic (NASDAQOMX)          | € 19.00                    | \$39.00            | € 30.19                | € 11.19                                   | 58.87%          |
| PLUS Markets                | € 18.50                    | \$35.00            | € 27.09                | € 8.59                                    | 46.43%          |
| Baltic (NASDAQOMX)          | € 14.00                    | \$25.00            | € 19.35                | € 5.35                                    | 38.21%          |
| Borsa Italiana              | € 12.00                    | \$20.00            | € 15.48                | € 3.48                                    | 29.00%          |

Currency conversion: Euro USD = 0.774 GBP USD = 1.23

Please also note that for Deutsche Boerse this is specifically for Xetra Ultra.

## RETAIL/NON PROFESSIONAL

The vast majority of discussion and description in this report relates to the institutional market made up of what are sometimes referred to as '*professional*' participants of a market. Pricing solutions especially from Exchanges are often radically lower for what are deemed non professional participants who are also referred to as 'Retail' or 'Private Investors'.

The institutional market comprises two core types of firm –'Sell Side' and 'Buy Side'. The Sell Side is dominated by a few large universal/investment banks that are sometimes called *Bulge Bracket* and

then this is complimented by a range of Tier 2 and lower national and regional banks and a few boutique Investment Banks and Brokers. The Buy Side is comprised of a number of long only Investment/Asset Management firms including big Insurance Groups and other Fund Mangers (Units and Mutuals). More recently the institutional Buy Side has been bolstered by a plethora of Hedge Funds – many different flavors of Hedge Funds. It is these firms that the pricing discussed in this report is primarily aimed at.

Retail/Private Investors will often access market data and exchange data via internet trading portals. In many cases minimal or no subscriptions are charged especially if data accessed is delayed by the appropriate period. If however real time data is required by any of these consumers, as *Non Professionals* they can access data at significantly reduced prices.

This report focuses on Professional/Institutional access only.

## TECHNOLOGY AND TELECOMS

Market Data and Exchange Data do not miraculously appear on a user's desktop terminal, some kind of telecoms service is used to deliver data from the data vendors site to that customers site and once on the customers site a wealth of application software, hardware and network infrastructure are needed to deliver and distribute internally and on top of all that a user firm invariably employs a squad of well trained IT engineers, project managers and other types to keep the technology up, running and optimized. The prime areas of expenditure are:

**Telecommunications** - lines between the customer firm and either a market data vendor's data centre, a proximity hosting centre and/or a direct connection with a trading venue like an exchange.

**Market Data Distribution Software** – this would typically include software such as Reuters Market Data System (RMDS) or Wombat now part of NYSE Euronext, or Activ Financial and others etc. These types of software solution include Feed Handlers, Network Distribution and Management Software (e.g. DACS).

**General Hardware** – modern market data distribution systems still run on large quantities of server boxes, these days more often than not running Linux enabling the use of Intel hardware as well as the more traditional Sun boxes.

**Network Infrastructure** –Massive growth in data throughput and the associated need for capacity coupled with the relentless need for speed as firms seek to reduce latency – requires investment in network infrastructure from the likes of Cisco and many newer companies.

**People** – systems and network support requires significant numbers of highly qualified and therefore quite expensive human resource.

The areas described above are those tracked in this report's analysis of IT Infrastructure costs.

\* In addition these core IT Infrastructure services many consumer firms deploy a wide range of Applications that amongst other things consume Market Data (and within that Exchange Data). These include:

Order and Execution Management Systems (OMS and EMS), Smart Order Routing Systems, Risk Management, Portfolio Management and a raft of Algo Trading Applications. There has also been significant investment in the area of Complex Event Processing and Database storage solutions (e.g. in memory database technology). These are **not** tracked in this reports Ratio analysis. However, in many cases, as customer firms deploy ever more sophisticated technologies, these costs would likely be substantial.

## RATIOS

A key piece of information we sought while compiling this report was the ratio of expenditure on a variety of expenditure elements. Obviously a very granular breakdown would be useful, however, at this stage we have focused on three core elements that typically make up the whole of a firm's expenditure.

1. Underlying market data vendor subscription (*Data Vendor*)
2. Discretionary/optional service data expenditure – primarily exchanges fees (*Exchange Fees*)
3. Technology and Telecoms (*IT Infra*)\*

Please note that the technology element commented on here relates purely to market data delivery and distribution. Consumer firms also deploy a vast array of other technology as already explained e.g. Order and Execution Management Systems, Risk Management Systems, Portfolio management Systems etc. These other types of systems may interface with market data software and systems but for the purposes of this analysis they are not included in the total for "Technology". As previously noted this expenditure could be significant.

At a very summary level our research indicated a breakdown as follows:

|                             |                                       |
|-----------------------------|---------------------------------------|
| <b><i>Data Vendor</i></b>   | <b><i>range from - 65% to 80%</i></b> |
| <b><i>Exchange Fees</i></b> | <b><i>range from - 8% to 15%</i></b>  |
| <b><i>IT Infra*</i></b>     | <b><i>range from - 10% to 16%</i></b> |

*\* please see notes on previous page*

However, these high level aggregated figures mask a more complex picture. The figures in summary above represent an aggregate view of a collection of user firms, within these overall figures there is more subtlety and nuance. For example there is a significant distinction between market data users who are predominantly involved with the equities markets contrasted against those who focus on other markets e.g. fixed income, money markets, commodities, foreign exchange etc. A further level of granularity would be the proportion of these Equities focused users who are 'Front Office' i.e. in some kind of trading capacity. These figures present an average only, and can vary per user firm. It is worth mentioning that many exchanges provide free data access to the traders of their member firms with trading venue access (i.e. direct connection to the trading platform).

This research did investigate variations between sell side firms and buy side firms and the ratios varied slightly in that sell side firms would typically have a higher proportion of users in a trading capacity but in some ways this is offset by sell side firms also have substantial staff in mid office and back office functions. The variations are not significant enough to comment on.

## SECTION 2 – REVENUES EARNED FROM MARKET DATA

### THOMSON REUTERS

Reuters had always been one of the most forthcoming firms for detailed investor relations data, the Thomson Corporation was a lot less forthcoming and a lot less granular in its figures. Thomson Reuters more closely follows the Thomson Corp style of investor relations. Thomson Reuters Markets Division delivered total revenues for the year up until the end of December 2009 of **\$7.535 Billion**. This was split (in USD Billions):

- Sales and Trading                      \$3.55
- Investment and Advisory              \$2.304
- Enterprise                                \$1.316
- Media                                        \$0.365

If we take a view that deliberately errs on the side of underestimating revenues from market data we would ascribe around 55% of total revenues as being ‘Market Data’ which would give an estimated market data revenue of **\$4.14 Billion**. Accurately estimating market data revenue depends on how ‘market data’ is defined i.e. what is included and what excluded.

### BLOOMBERG

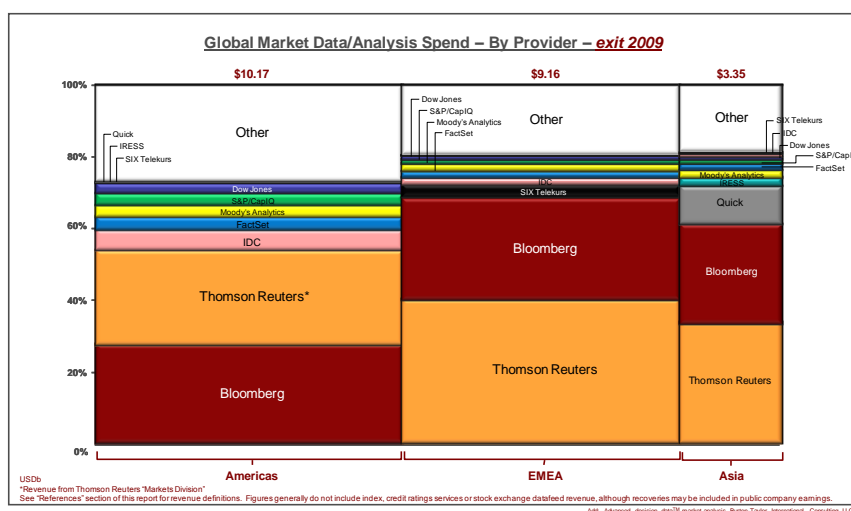
The Wall Street Journal online ran a story on February 3<sup>rd</sup> 2010 saying broadly that Bloomberg expects to increase its revenue by 10% in 2010 this would come mostly from a forecast increase of around 12,000 Bloomberg Professionals. Revenue for 2009 was estimated at **\$6.25 billion**. In previous years IMD Reference had always estimated that about 85% of Bloomberg’s revenue could be attributed to the way a firm like Thomson Reuters accounts for Market Data. Even if we apply a more aggressive 80% for 2009 this would give a market data revenue figure of about **\$5 Billion**.

### INTERACTIVE DATA

As already described Interactive Data Corp is a significantly smaller player in Market Data. Its total revenues only amount to 0.76 Billion USD.

| <i>(In USD thousands)</i>           | <b>2009</b>    |
|-------------------------------------|----------------|
| Institutional Services:             |                |
| Pricing and Reference Data          | <b>499,385</b> |
| Real-Time Services                  | <b>141,302</b> |
| Fixed Income Analytics              | <b>33,156</b>  |
| <b>Total Institutional Services</b> | <b>673,843</b> |
| Active Trader Services              |                |
| eSignal                             | <b>83,375</b>  |
| <b>Total Active Trader Services</b> | <b>83,375</b>  |
| <b>TOTAL REVENUE</b>                | <b>757,218</b> |

## BURTON TAYLOR MARKET SHARE ANALYSIS – YEAR ENDED 2009



| USDm pa   | Thomson Reuters | Bloomberg  | IDC      | FactSet  | Moody's Analytics | S&P/CapIQ | Dow Jones | SIX Telekurs | Morningstar |
|-----------|-----------------|------------|----------|----------|-------------------|-----------|-----------|--------------|-------------|
| Americas  | \$2,782.52      | \$2,641.15 | \$532.02 | \$417.18 | \$327.70          | \$314.97  | \$283.73  | \$41.50      | \$244.62    |
| EMEA      | \$3,595.53      | \$2,490.44 | \$193.73 | \$164.16 | \$164.03          | \$113.86  | \$106.44  | \$348.60     | \$65.44     |
| Sub total | \$6,378.06      | \$5,131.59 | \$725.75 | \$581.34 | \$491.73          | \$428.83  | \$390.17  | \$390.10     | \$310.06    |

According to Burton Taylor Market Data revenues in the Americas were about \$10billion whereas in EMEA they were about \$9billion

## EXCHANGE REVENUES FOR MARKET DATA

In this report we have not collated data in detail on revenues earned by Exchanges. In the last edition of IMD Reference which looked at Market Data revenues for the calendar year 2008 Exchanges accounted for around 9% of total market data revenue and less than 12% when the Rating Agencies were removed from the total. In 2008 IMD Reference estimated that Exchange Revenues globally amounted to about 1.8Billion per annum. Ad hoc examples of data revenues for 2009 include:

NYSE Euronext posted Market Data revenues for 2009 at \$402m which was made up of \$214m from US Operations and \$188m from their European Operations, which includes NYSE's LIFFE derivatives market and its Euronext cash equities market. Nasdaqomx showed total Market Data revenues for 2009 as \$322m of which their European market data products contributed \$78m. Deutsche Borse had revenues in 2009 of €188.5m in its Market Data and Analytics Segment of which 70% (€132m) was earned from the distribution of real time data operated by Deutsche Borse its real-time index business as well as revenues reaped through market data distribution for co-operation partners (for well over 20 trading venues/data sources data, e.g. Eurex, Eurex Bonds, German Regional Stock Exchanges and others). London Stock Exchange Group declared revenues of £216.6m for their Information & Technology Services segment in 2009 of that £103.7m related specifically to real-time data. Bolsas y Mercados Espanoles (BME Group) had revenues in its Information segment of €31.9m in 2009. Finally Oslo Bors gained revenues of NOK114m in 2009 from Financial Market Data.

## SECTION 3 – METHODOLOGY

This report has been compiled using a number of methods and sources. The two main methods are secondary desk based research and primary interview based research.

### SECONDARY DESK RESEARCH

This comprises accessing data from the public record and these days 100% accessed by the Internet. It includes price lists, commercial/legal documents and general marketing collateral provided and company/organization web sites. In addition where companies are publicly quoted, detailed information can be gathered from Investor Relations sections on corporate web site; including quarterly and annual reports plus for US companies forms like 10K etc. In addition further information has been gathered from news sources.

Finally we have reached out to various other specialist firms and requested access to reports and research they have generated and with their permission and providing appropriate attribution we have included pertinent data from these third party sources.

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### THIRD PART ATTRIBUTION

#### **Burton Taylor Associates**

Thanks to Doug Taylor for his help in providing up to data overall market share analysis for year ended 2009. For more information please contact Doug at [douglasbtaylor@burton-taylor.com](mailto:douglasbtaylor@burton-taylor.com)

#### **The Exchange Guide**

Paul Serjeant has provided invaluable input into many aspects of this report, much of that input comes via Paul's current project "The Exchange Guide". For more information please contact Paul at [paul.serjeant@exchangeguide.net](mailto:paul.serjeant@exchangeguide.net)

#### **Expand Consulting**

Rupert Bull and his colleagues at Expand provided input with respect to this reports ratio analysis, based on aggregated and anonymous data drawn from their 20 plus clients who are participating in their market data benchmark study – "The Expand Consulting Benchmark study". For more information please contact Rupert at [Rupert.Bull@expandresearch.com](mailto:Rupert.Bull@expandresearch.com)

#### **MDSL**

Ben Mendoza and his colleagues at MDSL provided some high level, aggregated and fully anonymous data based on their extensive view of over 50 clients' market data inventories. For more information please contact Ben at [ben.mendoza@uk.mdsl.com](mailto:ben.mendoza@uk.mdsl.com)



## PRIMARY INTERVIEW BASED RESEARCH

Parts of this research, most notably the ratios for different type of market data expenditure, have relied heavily on direct contact with end user firms in the form of interviews with senior market data management. The specific research questions have been posed in such a way as to assure total confidentiality and anonymity of data to all respondents. Data of this kind that is published in this report is presented as aggregated and therefore anonymous.

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## RESPONDENT FIRMS

Include:

- Barcap
- Citigroup
- Credit Suisse
- Fidelity
- Goldman Sachs
- Invesco
- JP Morgan
- Legal and General Investment Management
- Morgan Stanley
- Rabo
- UBS

Contact was also made with several large/medium sized data vendors and a number of exchanges.

## CONTACT US

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