



## ADVICE TO ESMA

### Data Publication

---

#### I. Introduction and background

1. Today's market operations are generating a massive amount of data and simultaneously consuming those data as well as other market data providers data, like Rating Agencies, valuation service providers, news agencies, research providers, etc. In fact the list of data service providers as well as data products and services is very long. This paper will focus on the distribution channels and costs related to the publication of market data defined as data related to the negotiation of securities and securities like (i.e. price, quantity, location of trade....)
2. Under the present MiFID/MiFIR regulation, little is said about data publication. The subject was limited to the pre and post trade transparency in the case of equity and it is the responsibility of the trading venues and SIs to publish pre- and post-trade data in line with MiFID requirements.
3. MiFID II and MiFIR consider transparency as "pivotal" for market participants and regulators. According to Recital 115 of MiFID II, "the provision of core market data services...should be subject to authorization and regulation to ensure the necessary level of quality". So, in addition to the data supplied by the "lit" trading venues, new reporting services operated by Data Service Providers will be approved as Approved Publication Arrangements (APA), Consolidated Tape Providers (CTP) to inform the public and Approved Reporting Mechanism (ARM) to report trades to the regulators. If clear rules are provided regarding the organization and the quality of those Data Reporting Services (DTS), little is said regarding their cost except that they should be offered on a non-discriminatory basis and at reasonable commercial terms. MiFID II provides also for the concept of data dis aggregation so that customers only pay for the data they want.
4. The production and distribution of high quality market data as well as the consumption thereof involve costs. Costs for the wholesale user – besides his internal operating costs – are incurred through the data administration of license structures (data contracts) as well as the data license fees levied by the data sources (and which can increase through "unbundling" of standard data packages) and the service providers. Service Providers usually levy additional mark-ups often due to the fact that they provide readily available access to multiple data, which would otherwise increase cost directly at customer site. Those mark-ups, however, can vary sometimes even significantly and are not under control of the original data sources (here: trading venues). Additional cost can arise through the delivery channels used, mainly Market Data Vendors which may charge additional fees and usually have their own data licenses in place, e.g. there are the mark-ups applied by the display medium which constitutes the "last mile to customer".

5. Data cost have increased substantially for all users over the past few years due to various reasons (see exhibit 01). Assumably, data sources like exchanges were originators of the bespoke price adjustments (in fact sometimes data fees have been reduced as well). Some fact finding showed, however, that in multiple cases which had been evaluated by the Group, trading venues were not the originator behind the major data fee increases. Price adjustments seemingly had been conducted by the “last mile”. This showed that in fact that there is no transparency to the end as regards the originator of any price adjustment. Transparency as regards Price Lists for Trading Venues Data License Fees would thus be helpful. Some venues already provide their data price lists on their websites, such as LSE, Euronext or Deutsche Börse.

## **II. Regulation of Market Data Producers and Vendors**

6. It should be highlighted that market data is important across the Financial Services Industry, including of course exchanges as users of bespoke data. However, whilst the MiFID Review has resulted in Level I text that addresses the issue of provision of data by trading venues, investment firms, APAs and CTPs, there is no specific regulation applicable to provision of market data by other data vendors, so the contract and pricing policies of the Market Data Vendors would appear to be outside the scope of regulation. Therefore it is useful to inventory how market data are being used.
7. It is also useful to review who the providers of market data services to customer are. They often are different from the generators. Finally the pricing mechanism of the supply of data should be understood and evaluated.

### **What kind of data are being made available to and used by the markets participants**

8. Market Data are used throughout the value chain of securities business from research, trading, advice, portfolio management to securities administration and custody. For example, securities services in banks, investment firms or asset managers provide services to institutional investor in various areas such as Net Asset Value (NAV) computation, compliance checks, clients & regulatory reporting, fund administration and custody to name a few all of which require the production of all kinds of reports. In the exchange space, real-time market data from other trading venues is being used for offering various market models to customers, for brokers to implement the Best Execution, for regulatory supervision, to operate regulatory reporting services, or for index calculations. Data costs are considered to be normal operating costs for exchanges.
9. In summary, Market Data is being used to negotiate, to report, to evaluate; all activities related to the capital market use market data: trading, money management, portfolio evaluation, clearing and settlement, custody, taxation (capital gain as well as wealth tax), securities analysis, academic studies...
10. As a consequence a large spectrum of users (including trading venues / exchanges) requires accurate and timely market data for all asset classes. As of now, apart from equity market data, provided by lit trading venues, access to other asset class data is almost impossible, as there is hardly any transparency available to the public or even the regulators.
11. The value of market data can be driven by the speed in which it is distributed (latency) and its quality and reliability. However, different users value differently the specifics of the data they need: speed and depth of the book are essential for example for brokers, order execution systems, algorithmic traders, or real time index computation, but not for the computation of the net asset value of a fund or the computation of a capital gain. Various license terms are already being made available by trading venues in

order to cater for different customer needs with different products and different fees. This includes cost-efficient company licenses, or price per natural user. 15 minutes delayed data are generally available free of license fee. Special license fees apply to retail customers. However mark-ups by “last mile” or inclusion into soft commissions cannot be controlled by the data source.

### **III. Production and distribution of market data**

12. Market data are directly related to the trades taking place in the trading venues. They can be split between pre-trade and post-trade information. In both cases present MiFID as well as MiFID II rules request full transparency and instant communication by trading venues subject to exceptions.

13. **a.** Pre-trade information is made available by lit markets (i.e. Regulated Markets and MTF). This information is publicly displayed by the market operators but the depth (i.e. the number of offer and demand being displayed) of it might not be identical for all market participants while only the members of the trading venues might have access to the full book (all offers and demands present in the matching system at a given time). All major exchange venues offer both level 1 information ( L1) which is best bid/offer and last trade as well as level 2 ( L2) which encompasses the latter plus market depth down to several levels all made available to the public by exchanges. Other data providers can be less transparent. However, full transparency down to the last level is not necessarily useful to users, certainly not to all. When the market is OTC, pre-trade information is limited to price indications by dealers or market makers and no market depth information is available.

**b.** Under MiFID (see ARTS 28 and 45) post-trade information resulting from trades on all venues has to be made publicly available with quantity and price as soon as possible.

14. OTC post-trade equity trade data under MiFID has to be made public in real-time immediately and no later than 3 minutes after trade execution. A large number of OTC trades are reported with substantial delays thanks to exceptions resulting from transparency waivers. Exchanges organize price forming markets, which are fair and rules based, create and apply different market models and under direct surveillance and thus produce highly reliable data. This data is being made public at non-discriminatory terms to every interested party. In contrast to this, OTC data is not as reliable or valuable although it represents orders which have been matched as well. This displays the value proposition of exchange data.

15. Actors in the production and distribution of market data can be classified in two main categories which often overlap:

**a.** The market operators which organize price forming markets, which are fair and rules based, create and apply different market models under direct surveillance and thus produce highly reliable data. They publish it in line with various regulations and exchange rules. Data is a joint product of a trading system alongside trading services. They are generated simultaneously in the same systems and incur discrete as well as joint costs.

**b.** To make the data available to the users, tools have been developed either directly by the producers but usually by specialized Market Data Service Providers / Vendors or by Investment Firms, the latter especially in the case of retail customers. They are usually the “last mile” in the data distribution system.

16. With MiFID II the concept of Data Service Providers has been newly introduced: For the publication of trade data which are not the result of trades in the lit markets, APAs will be approved by regulators to collect those trades and report them to the public. CTPs will be approved by regulators to consolidate trade information regarding equity and equity like instruments initially and later on for non-equity instruments. Finally ARMs will be responsible for collecting and reporting to regulators all trades not directly reported by the trading venues. However the new regulation does not require data vendors to operate under the regulatory technical standards which will be fixed by ESMA for the Data Reporting Services and they are not bound by the “reasonable commercial basis” concept.
17. Users have the choice to receive directly the data from the market operator / data producers but it is more complex, when you are not a member of the market operator, due to the requirement of specific connections to multiple trading venues. The other option is to use data vendors like one of the major news agency such as Bloomberg or Thomson Reuters. In that case the vendor will invoice his service (as a facilitator of data consolidation and easy access to multiple venues) in form of a mark-up as well as the fees charged by the producers of the data.
18. Data producers / trading venues generally do not sell the data but license the use of their data, for which they hold various IP rights which can vary according to jurisdiction and amongst others contain database rights, like the EU database directive. It can be questioned if a simple figure like a “price” contains enough intellectual depth to justify to be protected under applicable EU IP rights.

#### **IV. Recent evolution and cost of data**

19. On a global scale, no regulatory rule has been set up to control the pricing policy of data vendors, or service providers or investment firms. The only limit in the European legislation is the concept of “reasonable commercial terms” and the requirement that trades reported by trading venues be communicated free of charge to the public after a 15 minutes delay.
20. As long as market data were produced and distributed by monopolistic market operators, they were either free or very cheap. Only some Market Data Vendors were already charging high fees for their services. This has changed with the dispersion of negotiation between competing trading venues.
21. Regulated markets compared to MTFs usually cover a broader range of financial services including SMEs and in this respect usually have the following sources of revenue (obviously as well as corresponding cost): listing fees paid by issuers, transaction fees and sale of market data while MTF have the last two only.
22. A very detailed study “Pricing of market data services” published in February 2014 by Oxera (<http://www.oxera.com/Latest-Thinking/Publications/Reports/2014/Pricing-of-market-data-services-an-economic-analys.aspx>), explains very well the economic equilibrium of today’s trading venues and their pricing policy facing various types of data users.
23. Oxera comes to the conclusion that from a public policy perspective there is no requirement, nor justification to regulate trading venues’ market data fees. However as in most of those studies, some aspects of the study could be subject to discussion.
24. Regarding the vendors which give access to the data, they may take advantage of the oligopolies that they have created to dictate their price. In their case it is more difficult to trace the increases year after year since they are experts in changing the precise content of their services and their fees may be im-

pacted according to currencies fluctuations. In addition, since each of them has its specifics, it is quite compulsory for many users to subscribe to several of them in function of one's activities.

25. When using market data, securities services have to ensure data completeness, in order to be able to cover all instruments held in their client portfolios and also data quality control in order to ensure the accuracy of reporting to clients and regulators. In order to mitigate the associated potential operational risk, securities services need to diversify data sourcing to ensure completeness of the information, and the use of multiple sources for the same information to check data quality (data scrubbing and cleansing).
26. Vendors usually structure their contracts along the following lines: Data Policy (Intellectual Property Rights IPR, distribution rights, limitation of liability, audits rights, termination, usage rights, etc.) and Price Policy (invoicing clauses, rate card, price list, reporting obligation, etc.). Depending on the sector the vendors occupy or to the scope of data which they deliver, these two policies vary in the administrative and cost burden they place on the securities industry.
27. As a service based on intangible goods, data can be expensive to collect, structure, organize and distribute. Nonetheless it is very easy to replicate and broadcast. In the absence of regulation of this market, data providers have consistently tried to protect their interests from unlicensed distribution by financial institutions to their clients. These data providers consider unrestricted re-distribution as a breach of their IPRs.
28. On another hand, the securities industry (including trading venues) has to bear more and more constraints:
  - Provide clients with the raw data that have been used to create their final reports
  - Obligation to name the source of data for audit and compliance review purposes
  - Manage and control the increase of market data costs in order to align prices charged to customers to ensure economic stability and durability of the services provided to clients. As a result of the dispersion of systems to collect the market data, the same user ends up paying several times for a single piece of information.
29. Consequently one could ask if the securities industry is suffering from this absence of regulation in the market data industry since some members of the working group agreed that the cost of data is too high and increasing. They suggested that regulators should start investigating the Market Data Industry.

## **V. Possible solutions**

30. A first step could consist in establishing a general transparency rule, which would be the framework of the unified regulatory environment for each market operator and others and in setting up unified publication principles.
31. Data providers should make public their price list (in which the different type of data is displayed and comparable with each other) and advertise well in advance price increases. This could help understand the mark-ups of vendors. The criteria used to define fees should be homogeneous where possible to make comparisons possible, which is not the case today.

32. Also some members of the working group question the need to evaluate whether market data vendors should be regulated as Data Service Providers. This would include reasonable obligations to provide continuity of service, regulatory requirements or at least review of data license and pricing structures by a regulatory body, a form of open access or standard protocols between different sources and vendors (use of mandatory identifiers, mapping, and data exchange standards).
33. In any case MiFID II is requesting the determination of standards for APAs, CTPs, trading venues and creates the concept of data disaggregation. This gives an opportunity to the regulators to determine the content and conditions of distribution of market data to the public.

## **VI. Conclusions**

34. This is a very complex issue, which will need a combination of measures to resolve.
35. The process of developing raw electronic messages into high-quality data is a costly activity for trading venues and it is not possible to separate the trading process from the core data creation process, and therefore the costs of both activities are linked.
36. The Long Run Incremental Costs plus (LRIC+) model advocated by ESMA does not appear to be feasible, as the disadvantages clearly outweigh the benefits, including the need for national competent authorities (NCAs) to become competition authorities. It is intrusive and will create additional regulatory responsibility for the national and international competent authorities to oversee, which will ultimately add to the overall cost of data. The LRIC+ model would also create additional costs for the information sources and for regulators, without addressing the 85-92% value of the cost chain, which as shown in the Oxera Report, is not made of trading venue data fees, but vendor charges.
37. As stated above, the market sees a need for disaggregation, which will allow for charging on a 'per user basis' and we support this. This would be a better pricing method for end users, as it would avoid duplication of charging, which users see as inappropriate.
38. To ensure that data is made available to end users on a 'reasonable commercial basis' Data vendors should be subject to the same regulatory requirements as venues and other data service providers. In addition, ESMA should:
- encourage more transparency of pricing so that, venues' data subscription pricing is made available publicly (either on the venue's public website and/or on a central ESMA website);
  - ensure that all changes to pricing and policies governing such data subscriptions are published no less than 3 months in advance and made available immediately on venues' public websites and the ESMA website
39. The combination of these new standards will ensure that data users can identify the content they receive and use some key quantitative indicators to understand the breadth of content within the commercial data package. It will go some way to ensuring that data users' commercial needs are met, and that transparency of pricing, and pricing competition are both enhanced.

40. **Exhibits:**

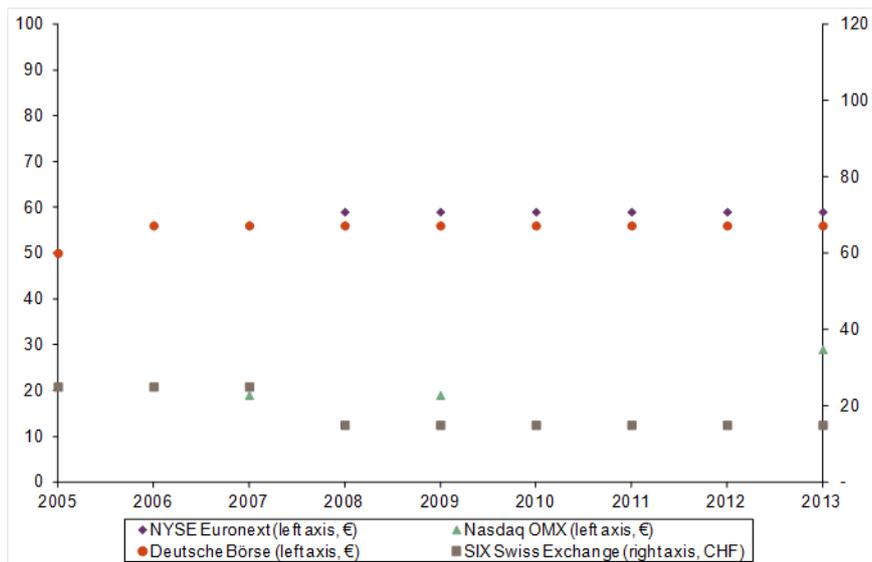
*01: Development of selected trading venue data fees over several years (source: "Pricing of market data services. An economic analysis", Oxera, February 2014*

*02: Recent increases in 2014 initiated by Bloomberg*

*03: Example of notification of fee change*

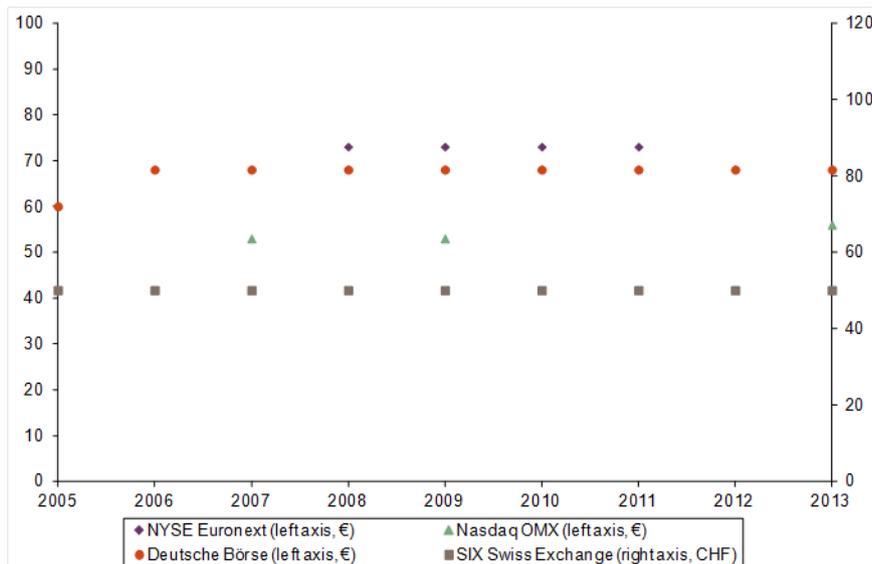
Exhibit 01: Development of selected trading venue data fees over several years (source: “Pricing of market data services. An economic analysis”, Oxera, February 2014)

**Fees for a level 1 data product (local currencies)**



Note: The fees are in nominal terms, in the local currency. The left vertical axis is in euros (€), the right vertical axis is in Swiss Francs (CHF). The scale of the left and right vertical axis have been chosen to approximately reflect the 2013 €-CHF exchange rate and held constant across Figures 3.7 to 3.9. Source: Data provided by the participating exchanges.

**Fees for a level 2 data product (local currencies)**



Note: Due to the differences in the range of data products offered by the participating exchanges, for NYSE Euronext, SIX Swiss Exchange and Deutsche Börse the level 2 product includes the last price and the best ten bids and offers, while for Nasdaq OMX the level 2 product includes the last price and the best five bids and offers. After 2011, NYSE Euronext removed its partial level 2 data product, so the data series ends. The fees are in nominal terms, in the local currency (the left axis is in €, the right in CHF). Source: Data provided by the participating exchanges.

Exhibit 02:

Changements tarifaires initiés par Bloomberg sur les redevances de bourse en 2013 / Coût mensuel en USD

| zone  | Product Name   | Coût mensuel au 1er janvier 2013 | mois de modification tarifaire |         |         |         |         |         |         |         | Coût mensuel au 1er janvier 2014 | Variation sur 1 an |          |          |
|---|--|----------------------------------|--------------------------------|---------|---------|---------|---------|---------|---------|---------|----------------------------------|--------------------|----------|----------|
|   |  |                                  | 2013/03                        | 2013/04 | 2013/07 | 2013/08 | 2013/09 | 2013/10 | 2013/11 | 2014/01 |                                  |                    |          |          |
| Europe  | Belgrade Stock Exchange Level 1                            | 0                                |                                |         | 14      |         |         |         |         |         |                                  | 14                 | New 2013 |          |
|   | Borsa Italiana Level 1                                     | 17                               |                                | 19      |         |         |         |         |         |         |                                  | 21                 | 23.5%    |          |
|   | Borsa Italiana Level 2                                     | 58                               |                                | 60      |         |         |         |         |         |         |                                  | 60                 | 3.4%     |          |
|   | Budapest Stock Exchange                                    | 32                               |                                |         |         |         |         |         |         |         | 34                               | 34                 | 6.3%     |          |
|   | Deutsche Boerse Xetra Ultra Level 1                        | 93                               |                                | 98      |         |         |         |         |         |         |                                  | 100                | 7.5%     |          |
|   | Deutsche Boerse Xetra Ultra Level 2                        | 110                              |                                | 116     |         |         |         |         |         |         |                                  | 119                | 8.2%     |          |
|   | Eurex Ultra Level 1  | 54                               |                                |         |         |         |         |         | 56      |         |                                  | 56                 | 3.7%     |          |
|   | Euronext All Indices Package                               | 13                               |                                | 15      |         |         |         |         |         |         |                                  | 15                 | 15.4%    |          |
|   | Euronext Equities Level 1                                  | 85                               |                                | 90      |         |         |         |         |         |         |                                  | 93                 | 9.4%     |          |
|   | Euronext Equities Level 2                                  | 122                              |                                | 128     |         |         |         |         |         |         |                                  | 131                | 7.4%     |          |
|   | Ljubljana Stock Exchange Level 1                           | 14                               |                                | 16      |         |         |         |         |         |         |                                  | 16                 | 14.3%    |          |
|   | London Metal Exchange                                      | 80                               |                                |         |         |         |         |         |         |         |                                  | 82                 | 2.5%     |          |
|   | London Metal Exchange 30Min Delay                          | 20                               |                                |         |         |         |         |         |         |         |                                  | 22                 | 10.0%    |          |
|   | London Stock Exchange International                        | 35                               |                                |         |         |         |         |         |         |         |                                  | 37                 | 5.7%     |          |
|   | London Stock Exchange International Level 2                | 132                              |                                |         |         |         |         |         |         |         |                                  | 138                | 4.5%     |          |
|   | London Stock Exchange Level 1                              | 62                               |                                |         | 64      |         |         |         |         |         |                                  | 68                 | 9.7%     |          |
|   | LSE European Quote Service Level 1                         | 9                                |                                |         | 11      |         |         |         |         |         |                                  | 11                 | 22.2%    |          |
|   | LSE European Quote Service Level 2                         | 29                               |                                |         | 35      |         |         |         |         |         |                                  | 36                 | 24.1%    |          |
|   | Luxembourg Stock Exchange Level 1                          | 46                               |                                |         |         |         |         |         |         |         |                                  | 49                 | 6.5%     |          |
|   | Madrid Stock Exchange Level 1                              | 57                               | 59                             |         |         |         |         |         | 63      |         |                                  | 66                 | 15.8%    |          |
|   | Madrid Stock Exchange Level 2                              | 87                               |                                |         |         |         |         |         | 70      |         |                                  | 70                 | 4.5%     |          |
|   | Montenegro Stock Exchange Level 1                          | 0                                |                                |         |         |         |         |         |         |         | 7                                | 7                  | New 2013 |          |
|   | Moscow Exchange Bonds                                      | 0                                |                                | 81      |         |         |         |         |         |         |                                  | 81                 | New 2013 |          |
|   | Moscow Exchange Currencies                                 | 0                                |                                | 81      |         |         |         |         |         |         |                                  | 81                 | New 2013 |          |
|   | Moscow Exchange Equities                                   | 0                                |                                | 81      |         |         |         |         |         |         |                                  | 85                 | 85       | New 2013 |
|   | Moscow Exchange Futures and Options                        | 0                                |                                | 58      |         |         |         |         |         |         |                                  | 58                 | New 2013 |          |
|   | NASDAQ OMX Nordic Equity Level 1 / VINX                    | 48                               |                                | 51      |         |         |         |         |         |         |                                  | 51                 | 6.3%     |          |
|   | NASDAQ OMX Nordic Equity TotalView                         | 114                              |                                | 120     |         |         |         |         |         |         |                                  | 120                | 5.3%     |          |
|   | NYSE Liffe Commodities Derivatives Level 1                 | 27                               |                                |         | 29      |         |         |         |         |         |                                  | 31                 | 31       | 14.8%    |
|   | NYSE Liffe Commodities Derivatives Level 2                 | 32                               |                                | 34      | 36      |         |         |         |         |         |                                  | 36                 | 12.5%    |          |
|   | NYSE Liffe Equity and Index Derivatives Level 1            | 49                               |                                | 52      | 54      |         |         |         |         |         |                                  | 57                 | 16.3%    |          |
|   | NYSE Liffe Equity and Index Derivatives Level 2            | 59                               |                                | 63      | 65      |         |         |         |         |         |                                  | 69                 | 16.9%    |          |
|   | NYSE Liffe Fixed Income Derivatives Level 1                | 52                               |                                | 55      | 57      |         |         |         |         |         |                                  | 61                 | 17.3%    |          |
|   | NYSE Liffe Fixed Income Derivatives Level 2                | 62                               |                                | 66      | 68      |         |         |         |         |         |                                  | 72                 | 16.1%    |          |
|   | Oslo stock Exchange  | 58                               |                                |         |         |         |         |         | 56      |         |                                  | 56                 | -3.4%    |          |
|   | Prague Stock Exchange Level 1                              | 25                               |                                | 27      |         |         |         |         |         |         |                                  | 27                 | 8.0%     |          |
|   | Scoach Schweiz   | 19                               |                                | 23      |         |         |         |         |         |         |                                  | 23                 | 21.1%    |          |
|   | SIX Swiss Exchange Level 1                                 | 15                               |                                | 17      |         |         |         |         |         |         |                                  | 17                 | 13.3%    |          |
|   | SIX Swiss Exchange Level 2                                 | 36                               |                                | 42      |         |         |         |         |         |         |                                  | 42                 | 16.7%    |          |
|   | Vienna Stock Exchange                                      | 62                               |                                | 66      |         |         |         |         |         |         |                                  | 66                 | 6.5%     |          |
|   | Warsaw SE & New Connect Indices                            | 7                                |                                | 10      |         |         |         |         |         |         |                                  | 10                 | 42.9%    |          |
|   | Warsaw SE & New Connect Full Market Depth                  | 62                               |                                |         |         |         |         |         |         |         |                                  | 75                 | 21.0%    |          |
|   | Warsaw Stock Exchange & NewConnect Market                  | 57                               |                                |         |         |         |         |         |         |         |                                  | 63                 | 10.5%    |          |
| <b>Europe - 43 redevances de bourses</b>        |  |                                  |                                |         |         |         |         |         |         |         |                                  |                    |          |          |
| Autre   | Australian Securities Exchange ComNews Service             | 36                               |                                |         |         |         |         |         |         |         |                                  | 33                 | -3.3%    |          |
|   | Australian Securities Exchange Equities Pro.               | 54                               |                                |         | 63      |         |         |         |         |         |                                  | 60                 | 11.1%    |          |
|   | Australian Securities Exchange Trade24 Professional        | 53                               |                                |         | 63      |         |         |         |         |         |                                  | 60                 | 13.2%    |          |
|   | BATS US BZX Market Depth                                   | 0                                |                                |         | 5       |         |         |         |         |         |                                  | 5                  | New 2013 |          |
|   | BME Certificates and Warrants                              | 0                                |                                |         |         |         |         |         |         |         |                                  | 4                  | New 2013 |          |
|   | CBOE Depth of Book   | 11                               |                                |         |         |         |         |         | 4       |         |                                  | 16                 | 45.5%    |          |
|   | CBOE Futures Exchange                                      | 6                                |                                |         |         |         |         |         | 11      |         |                                  | 11                 | 83.3%    |          |
|   | Chicago Board of Trade                                     | 76                               |                                |         |         |         |         |         |         |         |                                  | 91                 | 19.7%    |          |
|   | Chicago Mercantile Exchange                                | 76                               |                                |         |         |         |         |         |         |         |                                  | 91                 | 19.7%    |          |
|   | Chi-X Toronto Level 1                                      | 14                               |                                |         |         |         |         |         |         |         |                                  | 13                 | -7.1%    |          |
|   | Chi-X Toronto Level 2                                      | 32                               |                                |         |         |         |         |         |         |         |                                  | 31                 | -3.1%    |          |
|   | Colombo Stock Exchange                                     | 5                                |                                |         |         |         |         |         |         |         | 4                                | 4                  | -20.0%   |          |
|   | COMEX (Gold - Silver - Copper - Eurotop)                   | 76                               |                                |         |         |         |         |         |         |         |                                  | 91                 | 19.7%    |          |
|   | Dalian Commodity Exchange                                  | 18                               |                                |         |         |         |         |         |         |         |                                  | 11                 | -38.9%   |          |
|   | Dubai Mercantile Exchange                                  | 43                               |                                |         |         |         |         |         |         |         |                                  | 50                 | 16.3%    |          |
|   | Exchange KOSTAR Index Futures                              | 4                                |                                |         |         | 0       |         |         |         |         |                                  | 0                  | -100.0%  |          |
|   | Hanoi Stock Exchange Level II                              | 0                                |                                |         |         |         |         |         |         |         |                                  | 13                 | 13       | New 2013 |
|   | HKEX OMDC Full Book  | 0                                |                                |         |         |         |         |         |         |         | 60                               | 60                 | New 2013 |          |
|   | HKEX OMDC Level 1 and 2 data                               | 28                               |                                |         |         |         |         |         |         | 28      |                                  | 28                 | 0.0%     |          |
|   | Istanbul Equities Level 1 Plus                             | 10                               |                                |         | 8       |         |         |         |         |         |                                  | 8                  | -20.0%   |          |
|   | Istanbul Equities Level 2                                  | 32                               |                                |         | 28      |         |         |         |         |         |                                  | 28                 | -12.5%   |          |
|   | Istanbul Equities Level 2 (Inside Turkey)                  | 30                               |                                |         | 22      |         |         |         |         |         |                                  | 22                 | -26.7%   |          |
|   | Istanbul Equities Level 2 (Outside Turkey)                 | 32                               |                                |         | 28      |         |         |         |         |         |                                  | 24                 | -25.0%   |          |
|   | Istanbul Fixed Income Level 2                              | 32                               |                                |         | 27      |         |         |         |         |         |                                  | 27                 | -15.6%   |          |
|   | Istanbul Fixed Income Level 2 (Inside Turkey)              | 27                               |                                |         |         |         |         |         |         |         |                                  | 22                 | -18.5%   |          |
|   | Istanbul Fixed Income Level 2 (Outside Turkey)             | 32                               |                                |         |         |         |         |         |         |         |                                  | 27                 | -15.6%   |          |
|   | Istanbul Futures and Options Level 1 Plus (Inside Turkey)  | 0                                |                                |         | 8       |         |         |         |         |         |                                  | 8                  | New 2013 |          |
|   | Istanbul Futures and Options Level 1 Plus (Outside Turkey) | 0                                |                                |         | 11      |         |         |         |         |         |                                  | 11                 | New 2013 |          |
|   | Istanbul Futures and Options Level 2 (Inside Turkey)       | 0                                |                                |         | 23      |         |         |         |         |         |                                  | 23                 | New 2013 |          |
|   | Istanbul Futures and Options Level 2 (Outside Turkey)      | 0                                |                                |         | 30      |         |         |         |         |         |                                  | 30                 | New 2013 |          |
|   | Istanbul Gold Exchange (Inside Turkey)                     | 5                                |                                |         | 6       |         |         |         |         |         |                                  | 6                  | 20.0%    |          |
|   | JSE Equity Derivatives Market                              | 15                               |                                |         |         |         |         |         |         |         |                                  | 11                 | -26.7%   |          |
|   | JSE Equity Market  | 53                               |                                |         |         |         |         |         |         |         |                                  | 45                 | -15.1%   |          |
|   | NASDAQ Basic   | 44                               |                                |         |         |         |         |         |         |         |                                  | 56                 | 27.3%    |          |
|   | NASDAQ Level 1   | 22                               |                                | 28      |         |         |         |         |         |         |                                  | 28                 | 27.3%    |          |
|   | NASDAQ Level 2   | 44                               |                                |         |         |         |         |         |         |         |                                  | 51                 | 15.9%    |          |
|   | National Stock Exchange Equities Level 1 (outside India)   | 14                               |                                |         |         |         |         |         |         |         |                                  | 11                 | -21.4%   |          |
|   | National Stock Exchange Equities Level 2 (Outside India)   | 19                               |                                |         |         |         |         |         |         |         |                                  | 16                 | -15.8%   |          |
|   | National Stock Exchange Equities Level 2 F 1/84 5/16 Insid | 14                               |                                |         | 16      |         |         |         |         |         |                                  | 16                 | 14.3%    |          |
|   | National Stock Exchange Futures Level 1 (Outside India)    | 14                               |                                |         |         |         |         |         |         |         |                                  | 11                 | -21.4%   |          |
|   | National Stock Exchange Futures Level 1 F 1/64 5/16 Insid  | 9                                |                                |         | 11      |         |         |         |         |         |                                  | 11                 | 22.2%    |          |
|   | New York Mercantile Exchange                               | 152                              |                                |         |         |         |         |         |         |         |                                  | 182                | 19.7%    |          |
|   | New Zealand BBO  | 65                               |                                |         |         |         |         |         | 69      |         |                                  | 75                 | 15.4%    |          |
|   | NYSE Global Index Feed                                     | 10                               |                                |         |         |         |         |         |         |         |                                  | 11                 | 10.0%    |          |
|   | Nyse MKT (AMEX) Open Book Level 2                          | 0                                |                                | 5       |         |         |         |         |         |         |                                  | 5                  | New 2013 |          |
|   | Options Price Reporting Authority (OPRA)                   | 26                               |                                |         |         |         |         |         |         |         |                                  | 27                 | 3.8%     |          |
|   | Osaka Securities Exchange level 1                          | 16                               |                                |         | 9       |         |         |         |         |         |                                  | 9                  | -43.8%   |          |
|   | OTC Markets Level 1  | 24                               |                                |         |         |         |         |         |         |         |                                  | 30                 | 25.0%    |          |
|   | OTC Markets Level 2  | 60                               |                                |         |         |         |         |         |         |         |                                  | 75                 | 25.0%    |          |
|   | Public Company Market Level II                             | 0                                |                                |         |         |         |         |         |         |         |                                  | 13                 | New 2013 |          |
| Pure Trading Level 1                            | 10   |                                  |                                |         |         |         |         |         |         |         | 10                               | 0.0%               |          |          |
| Pure Trading Level 2 (Outside Canada)           | 28   |                                  |                                |         |         |         |         |         |         |         | 49                               | 75.0%              |          |          |
| RTS Board                                       | 0  |                                  |                                |         |         |         |         | 54      |         |         | 54                               | New 2013           |          |          |
| RussellTick                                     | 0  |                                  |                                |         |         |         |         |         |         |         | 15                               | New 2013           |          |          |
| Singapore Exchange (SGX-ST) Securities Level 1  | 10   |                                  |                                |         |         |         |         |         |         |         | 15                               | 50.0%              |          |          |
| Tel Aviv Stock Exchange                         | 24   |                                  |                                |         |         |         |         |         |         |         | 14                               | -41.7%             |          |          |
| Tokyo Stock Exchange Level 1                    | 20   |                                  |                                | 14      |         |         |         |         |         |         | 24                               | 20.0%              |          |          |
| Tokyo Stock Exchange Level 1 (Outside Japan)    | 24   |                                  |                                |         |         |         |         |         |         |         | 22                               | -8.3%              |          |          |
| Tokyo Stock exchange level 2 (8 BBO)            | 29   |                                  |                                | 31      |         |         |         |         |         |         | 31                               | 6.9%               |          |          |
| Tokyo Stock Exchange level 3 (Full depth)       | 37   |                                  |                                | 39      |         |         |         |         |         |         | 39                               | 5.4%               |          |          |
| Toronto Stock Exchange Level 1 (Outside Canada) | 58   |                                  |                                |         |         |         |         |         |         |         | 57                               | -2.6%              |          |          |
| <b>Autre - 61 redevances de bourses</b>         |  |                                  |                                |         |         |         |         |         |         |         |                                  |                    |          |          |

Exhibit 03



"Realtime Exchanges (BLOOMBERG/ 731 LEX A)" <exchanges@bloomberg.net>  
27/03/2014 13:04  
Veillez répondre à  
"Realtime Exchanges"  
<exchanges@bloomberg.net>

A undisclosed-recipients;;  
cc  
ccc  
Objet BSE Ltd Price Changes, Effective April 1, 2014

Dear Bloomberg Subscriber and Market Data Contacts,

You have received this notification because you are currently subscribing to BSE Ltd Exchange products or because you are on our mailing list to receive all price change notifications.

Please note that effective April 1, 2014, the following new fee schedule will be in place for BSE Ltd Level 1 {FIFW EIS BSE1<GO>} and BSE Ltd Level 2 {FIFW EIS BSE2<GO>}:

| Mnemonic | Exchange Product                | Current | April 1, 2014 |
|----------|---------------------------------|---------|---------------|
| BSE1     | BSE Ltd Level 1 - Inside India  | \$8     | \$12          |
| BSE1     | BSE Ltd Level 1 - Outside India | \$18    | \$20          |
| BSE2     | BSE Ltd Level 2 - Inside India  | \$13    | \$17          |
| BSE2     | BSE Ltd Level 2 - Outside India | \$25    | \$26          |

If you are subscribed to any of the above products, your subscription will automatically be maintained at the new rate unless you cancel your subscription.

If your subscriptions are NOT managed by a Market Data group and you need to SUBSCRIBE or CANCEL the product(s) listed above, begin by typing EIS<GO>, 96<GO> Request Products and then choose either Start Exchange Product Access or Stop Exchange Product Access. You will be prompted for User Verification to ensure a secure transaction. Under Exchange Product Access Enable Mode or Exchange Product Access Disable Mode, search for the Exchange Product(s) that you would like to add from Available Exchange Products or remove from Currently Enabled Exchange Products, click on your selection(s) to add the Exchange Product(s) to the Selected Exchange Products column and choose 97<GO> to Start Access or Stop Access. Be sure to read the Exchange Product Access Confirmation before selecting 1<GO> Start Access or Stop Access and remember to re-log in to your BLOOMBERG PROFESSIONAL Service for the change(s) to take effect.

Thank you and regards,  
Bloomberg Exchanges Department

This advice will be published on the Securities and Markets Stakeholder Group section of ESMA's website.

Adopted on 23 September 2014

Jesper Lau Hansen  
Chair  
Securities and Markets Stakeholder Group