Rights Management Associates Ltd

Market Data Licensing and Regulation in a Global Trading Environment

This white paper aims to draw attention to the role that data licensing plays in enabling access to market data and, indirectly, to the development and maintenance of orderly capital markets in a global trading environment.

Rights Management Associates (RMA) has provided specialist independent advice to exchanges, alternative trading venues, market participants and data vendors on market data licensing issues since 1999. We aim to serve the common industry goal of the widest legitimate use of market data, at the lowest overhead cost, with a minimum of administrative burden.

Our experience leads to the view that a clearer focus on market data usage rights is required, in order to address the concerns of regulators and lawmakers on issues such as transparency and commercial terms for public access to data and to ensure that regulatory frameworks are cost-effective, sustainable and consistent with wider economic, social and political aims.

The white paper is intended to promote informed discussion. Please feel free to distribute it and quote from it. Please ensure however that all quotes, including those we have taken from third party sources, are fully attributed.

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Introduction

Technology has transformed the use of market data since the establishment of the US National Market System in the 1970s, leading in the last decade to a global trading environment. Exchange market data can now be processed in real time to support secondary trading venues, trading in different asset classes and instruments and activities such as CFD trading and spread betting, anywhere in the world. By contrast securities regulation has remained national, or regional in the case of Europe. Over thirty years ago the US National Market System mandated consolidated equities and options feeds, with standard market data contracts, fees, policies and allocation of exchange fee income all subject to direct supervision by the Securities and Exchange Commission (SEC). No other securities regulator has adopted the same rules-based approach as the SEC. Few have the resources to do so. Most, including the US derivatives regulator CFTC, follow a principles-based approach.

Political responses to the financial crises of recent years have brought securities regulation into a global framework for financial regulation under the leadership of the G20 and the guidance of the Financial Stability Board (FSB). There is pressure to minimise the scope for regulatory arbitrage and to control the sheer workload imposed on all affected by new regulations. There is also increasing debate over the extent to which the use and licensing of market data need be regulated, in order to meet internationally accepted principles of investor protection, financial stability and the development and maintenance of orderly capital markets. This paper aims to review issues raised in this debate by reference to how market data is actually used and licensed in today's trading environment.

Many of today's most valuable uses of market data involve commercial data processing. These uses arguably have nothing to do with transparency, in the sense of making the data of the price-forming exchange available to the investing public.

Our review of recent debates and lobbying activities in North America and Europe indicates that regulatory statements and feedback from industry participants tend to ignore this aspect of current market data usage and licensing, preferring instead to focus on potentially misleading concepts such as "cost of market data".

We believe the long tradition of US market data lobbying on the battlefield of the National Market System may be part of the problem, rather than part of any new global solution. At G20, FSB and International Organization of Securities Commissions (IOSCO) level there is recognition of the need to

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ensure that regulatory frameworks can operate effectively and efficiently in a global trading environment. Various lobby groups in the US and elsewhere have emphasised the need for new rules and legislation to be carefully checked to ensure they do no harm, avoid unintended consequences and can be efficiently implemented on a world-wide basis. However in the area of existing US market data regulation there appears as yet to be little or no demand for a similar assessment. The National Market System sustains and nurtures lobbyists and litigators, regularly allowing them new opportunities to continue their fight from long-entrenched positions, without considering whether this struggle can bring about a more sustainable global approach to regulation of market data.

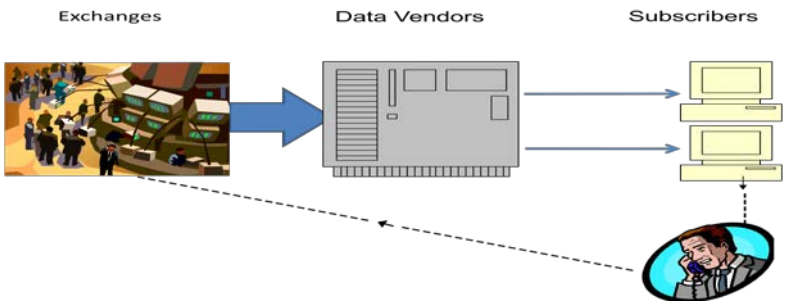
In this paper we suggest a basis on which the market data industry, regulators and legislators may work towards global consistency within established principles, avoiding undue market distortions, minimising the administrative burden and resolving unnecessary conflicts.

The Global Trading Environment

When the US equities consolidated feeds were set up, over thirty years ago, trading took place mainly at exchanges. There were no index futures and options or exchange traded funds. Less than 10 data vendors were originally connected to the US consolidated feed. These data vendors aggregated real-time data from multiple exchanges and distributed it to subscribers for display on the data vendors' proprietary terminal screens.

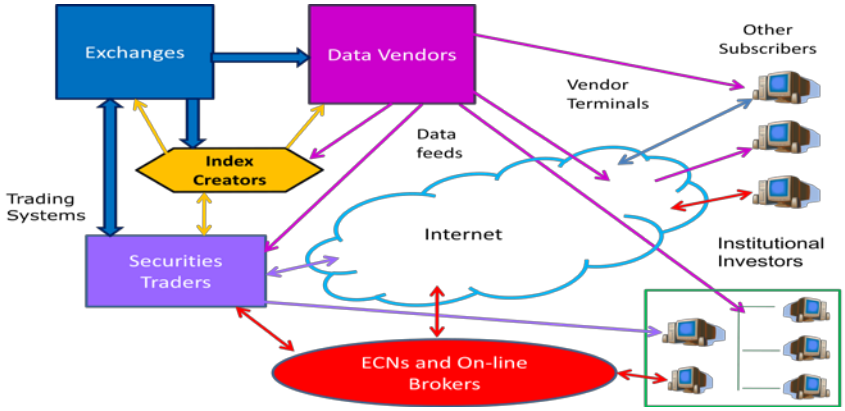
Subscribers could display and print out the data but had very limited ability to store and process it. Typically, real-time prices were communicated by telephone or telex to clients or traders for trading purposes. For all commercial purposes, the subscribers to data vendor screens were regarded as consumers or end-users of real-time market data.

Commercial use of market data circa 1980



By the mid-1990s digital computer networks had transformed use of market data. Electronic trading had arrived, on and off exchange. Cash market data could be processed in real time to calculate indices and price derivatives. Data vendors provided digital feeds enabling their subscribers to use, process and redistribute data on the subscribers' own networks. Brokers and data vendors began to offer internet services to the public with data from exchanges and/or electronic crossing networks.

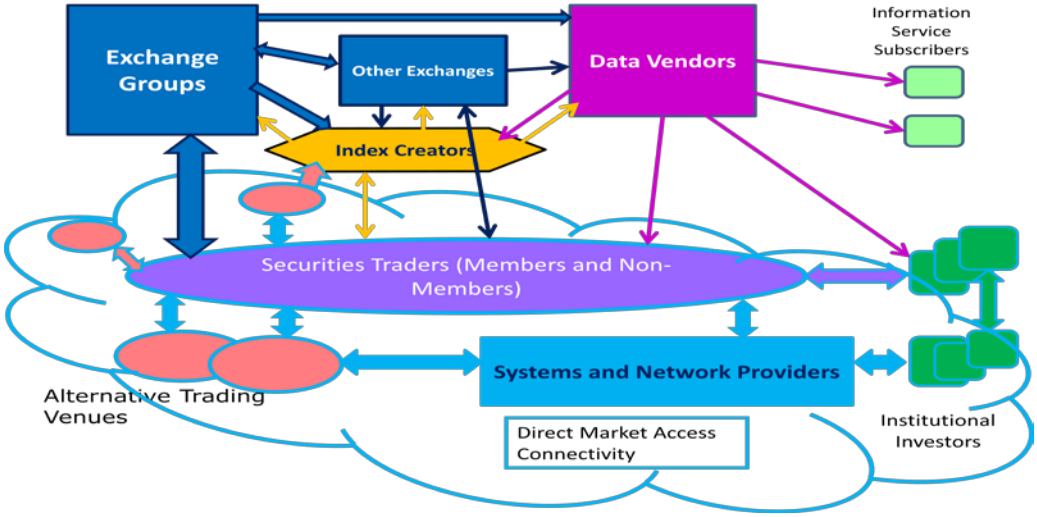
Commercial use of market data circa 1995



From about 2005, high-speed messaging protocols and advances in data processing capability have brought about a global trading infrastructure. Market data is used, processed and distributed far more

widely than via the information services of data vendors. Buy and sell sides have high speed connections with each other, with price-forming exchanges and with other trading venues and platforms. Infrastructure providers include exchange groups and data vendors plus independent service/technology providers under contract to market participants.

Commercial use of market data circa 2010



In summary, we now have a global trading environment of interconnected markets and trading communities. Price discovery by exchanges generates significant commercial opportunities for market participants and third parties, over and above trading on the price-forming exchange. Commercial and professional uses of real-time market data may now include, for example:

- Generation and pricing of bids and offers for the same securities, traded over the counter (OTC) or on alternative trading systems.
- Pricing of index derivatives, traded on or outside exchanges.
- Pricing of funds, including exchange-traded funds.
- Pricing of futures and options.
- Pricing of swaps, structured products and other asset classes.
- Generation of prices for CFD trading.
- Generation of prices for spread betting.

These activities can be carried out from any location connected to the real-time data trading and financial services networks, both inside and outside the jurisdiction of the regulators of the price-forming exchange. Recipients of exchange market data can use it to compete with the source exchanges in trading activities. For example many alternative trading venues peg prices to the real-time prices of primary listing exchanges. Data recipients can also compete with source exchanges as providers of market data, by using exchange market data to generate their own prices for distribution and use in the creation of indices and pricing of derivatives.

In this environment the effective licensing of international rights to use and process market data for purposes such as index creation or the pricing of derivatives may be as commercially valuable and strategically important for exchanges as the licensing of data vendors to display and distribute data in 1980s-style screen-based services.

These developments in the global trading infrastructure and its use of market data have important implications for international and national securities regulators. As our diagrams indicate, the commercial use of market data in 1990 was directly and almost entirely related to providing exchange prices transparently to the investing public. By 2010 only a tiny fraction of the market data used, processed and distributed in the global trading infrastructure is made available for public display. Indeed there is little or no suggestion that the private investor could possibly need or cope with the volume of market data demanded by market participants. Most of this market data is processed to support commercial trading activities which arguably have little to do with providing exchange data transparently to the investing public.

For developing countries and emerging market exchanges, the ability of data recipients to process market data in real-time and use it to price derivatives traded outside the country may have additional strategic and political implications. Many developing countries have cash markets only but plan to develop regulated markets in funds and derivatives to support national economic objectives. These plans may be endangered, or the stability of newly developed funds and derivatives markets threatened, if the exchange allows or securities regulators mandate the uncontrolled use, processing and distribution of real-time cash market data in foreign jurisdictions. In this context, the arguments that regulators should intervene to make unrestricted market data usage rights available to global trading firms either free "as a public good" or in return for strictly controlled "public access" fees may be seen at best as unsuitable for developing economies and at worst as an expression of economic imperialism.

International Regulatory Framework: FSB and IOSCO

With the exception of the European Union, securities regulation remains primarily national in character. However, following the financial crisis of 2008, an international framework for financial services regulation has been set up by G20 political leaders under the auspices of the Financial Stability Board (FSB). The FSB's objective is to co-ordinate the work of national regulators and standard setting bodies in order to develop and promote the implementation of effective regulatory, supervisory and other financial sector policies. The FSB is not directly involved in market data regulation, but at least two of its initiatives may have significant implications for the use and licensing of market data.

First, the FSB is involved in co-ordinating the implementation of OTC derivatives market reforms. These reforms follow agreement by G20 Leaders in 2009 that all standardised OTC derivatives contracts should be traded on exchanges or electronic trading platforms and, where appropriate, cleared through central counterparties by the end of 2012 at the latest and reported to trade repositories.

Second, the FSB, together with the IMF and World Bank, has been asked by G20 leaders to review financial stability issues of particular relevance to emerging markets and developing economies. Among other issues, the review is expected to cover domestic capital market development and to question how to maintain prudential oversight on global financial institutions.[1] As far as we know this review has not yet focused on the impact on emerging markets of market data licensing issues.

On issues of securities regulation the FSB works closely with the International Organization of Securities Commissions (IOSCO). IOSCO's membership includes the securities regulators for over 95% of the world's capital markets, drawn from over 100 jurisdictions. Its role is to set standards and promote co-operation among securities regulators. In 1998 IOSCO adopted a standard set of Objectives and Principles of Securities Regulation, revised and listed most recently in June 2010.[2] This document sets the following objectives for securities regulation:

- The protection of investors.
- Ensuring that markets are fair, efficient and transparent.
- The reduction of systemic risk.

We believe these IOSCO Objectives and Principles provide an essential starting point for any consideration of the extent to which market data use and distribution need be regulated in a global trading environment.

The February 2008 version of IOSCO's Objectives and Principles of Securities Regulation included a narrative introduction setting out the background to the listed standards.[3] This recognised that sound domestic markets are necessary for the strength of a domestic economy. It noted that domestic securities markets are increasingly being integrated into a global market and that emerging markets in particular may be prone to the effects of cross-border and cross-asset trading. It asserted that:

[1] Source http://www.financialstabilityboard.org/publications/r_110415a.pdf and http://www.gfsnews.com/article/1903/1/
[2] Source https://www.iosco.org/library/pubdocs/pdf/IOSCOPD323.pdf
[3] Source http://www.iosco.org/library/pubdocs/pdf/IOSCOPD265.pdf

> "in a global and integrated environment regulators must be in a position to assess the nature of cross-border conduct if they are to ensure the existence of fair, efficient and transparent markets."

In our experience regulators and parliamentarians in both developed and emerging economies need to pay particular attention to the risk that any arbitrary restrictions on the ability of regulated exchanges to license their market data could result in unlicensed and unregulated use outside the jurisdiction of the exchange's regulator. For example, even the generally accepted concept that delayed data should be free of charge can have unintended consequences, if implemented via rules that remove all control over the use of delayed data. There is little point in having elaborate rules relating to public display of real-time data, all in the name of transparency, if exchanges have no means of stopping their data recipients from passing off delayed data as live information.

IOSCO standards affirm the belief that regulation should facilitate capital formation and economic growth. They also recognise that inappropriate regulation can impose an unjustified burden on the market and inhibit market growth and development. IOSCO identified the following attributes of effective regulation as consistent with sound economic growth:

- "there should be no unnecessary barriers to entry and exit from markets and products;
- the markets should be open to the widest range of participants who meet the specified entry criteria;
- in the development of policy, regulatory bodies should consider the impact of the requirements imposed;
- there should be an equal regulatory burden on all who make a particular financial commitment or promise."

In a global trading environment these attributes are directly relevant to the use and licensing of market data. Technology now provides few barriers to prevent the recipients of real-time market data from processing it to create new markets and products, inside or outside the jurisdiction of the exchange's regulator. As a result there is now far more genuine competition than ever before to supply real-time data as the source for the creation and pricing of funds, derivatives and other financial trading activities, anywhere in the world. Arbitrary controls over the cost of exchange market data may distort this competition, especially if data recipients who bear none of the costs of price-forming exchanges can obtain access to exchange data at artificially restricted prices, then use it to compete with exchanges both as trading venues and as commercial providers and licensors of market data.

The IOSCO Principles and Objectives do not specify or require any direct regulatory control over market data fees. IOSCO statements relating to market data are primarily set in the context of the need for transparency, described in 2008 as follows:

> "Transparency may be defined as the degree to which information about trading (both for pre-trade and post-trade information) is made publicly available on a real-time basis."

Transparency, in the context of the IOSCO principles, never appears as an absolute requirement or exclusive aim. It is normally set in a framework of other aims such as the maintenance of efficient and orderly markets. In practice, in today's global trading environment the vast majority of trade, bid and offer prices made available to institutions are not transparent to the public; many of the most valuable market data usages also have little to do with transparency as defined by IOSCO, since they involve the commercial processing of real-time market data to create derived data, rather than the display of the exchange's market data to the public.

A 2011 IOSCO consultation report[4] refers to the above extract from the 2008 Principles and Objectives and to the following extract from a 2001 IOSCO report on Transparency and Market Fragmentation:

> "The interest of individual market participants and their customers in transparency levels varies and regulators need to assess the appropriate level of transparency in any particular product market with considerable care."

[4] Source http://www.iosco.org/library/pubdocs/pdf/IOSCOPD354.pdf

The phrase "appropriate level of transparency" is applied here to the requirements of various asset classes, but in our view this idea of "appropriate level" is also highly applicable to the way in which considerations of transparency are applied to the regulation of market data.

Our review of recent regulatory consultation exercises in Europe and North America indicates that relatively little attention has yet been paid to the level of transparency that is appropriate to market data regulation, to the level of market data regulation that is appropriate to the G20/FSB objectives and IOSCO principles or to the uses of market data that are the appropriate subject of securities regulation, in order to meet transparency requirements.

European Union (EU) Regulations

For the 30 member countries of the European Economic Area the use and distribution of exchange market data is subject to securities regulation in accordance with the Markets in Financial Instruments Directive (MiFID). Exchanges, vendors and users of market data are also subject to EU competition law. In November 2010 the European Securities and Markets Authority (ESMA) was established as the EU securities regulatory authority.[5]

MiFID, which provides for harmonisation of regulation for investment services in the EU, passed into law in 2004.[6] It therefore pre–dates the development of high-speed trading and the emergence of the global trading environment described in this article. MiFID was implemented in 2006 and applied from November 2007. A comprehensive overhaul of MiFID (MiFID II and MIFIR) was announced in October 2011. MiFID II and MiFIR documentation is currently being scrutinised by the European Parliament.

The main objectives of MiFID I were to increase competition and investor protection. Amongst other issues MiFID introduced the concept of the Multilateral Trading Facility (MTF) as a trading venue alongside the regulated markets (exchanges). On the issue of transparency the Preamble to the MiFID Directive states:

> "With the two-fold aim of protecting investors and ensuring the smooth operation of securities markets, it is necessary to ensure that transparency of transactions is achieved..... These considerations require a comprehensive transparency regime applicable to all transactions in shares irrespective of their execution by an investment firm on a bilateral basis or through regulated markets or MTFs"

MiFID does not define or specify a "comprehensive transparency regime" but it sets out clear principles for regulation. Regulated markets and MTFs are required to "make public" post-trade information "on a reasonable commercial basis, as close to real-time as possible." They are also required

> "to make public current bid and offer prices and the depth of trading interests at those prices which are advertised through their systems for shares admitted to trading.... on reasonable commercial terms and on a continuous basis during normal trading hours."

MiFID does not specify what it means by "make public" or "reasonable commercial terms".

These issues have been the subject of a great deal of consultation, debate and lobbying in the course of updating MiFID. In 2010, following its own consultations, the Committee of European Securities Regulators (CESR) issued "Technical Advice to the European Commission in the context of the MiFID Review – Equity Markets".[7] This paper set out various options for the provision of a mandatory consolidated tape of post trade data, the segmentation of data content and regulatory control over the pricing of data, even though CESR recognised in the paper that most of the bodies it had consulted with did not favour the imposition of a mandatory consolidated tape. CESR's proposals and options were made the subject of a further public consultation document in which various interested parties were invited to comment on a specific set of questions[8].

Prior to the publication of MiFID II and MiFIR documentation we reviewed these consultation documents and the response to them in detail. Predictably, many of the responses reflected the

[5] Source http://www.esma.europa.eu/page/esma-short
[6] Source http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32004L0039:EN:HTML
[7] Source http://www.esma.europa.eu/system/files/10_1210.pdf
[8] Source http://ec.europa.eu/internal_market/consultations/docs/2010/mifid/consultation_paper_en.pdf

commercial vested interests of the respondents. Surprisingly, we found that much of the debate overlooked essential characteristics of how market data is actually used and how this usage is reflected in the commercial terms on which market data is made available.

In practice market data is never bought and sold. Rights to use market data are made available under data licence agreements to market participants, members of the public and commercial organisations such as data vendors and index calculators. Exchange data licence agreements define various permitted uses of data and the associated fees. They also contain important provisions which support and maintain the quality and integrity of the data as used and redistributed by the exchanges' customers and ultimately made available to the public. For example data licence agreements normally ensure that delayed data from regulated exchanges may not be passed off as real-time data.

Our research indicated that both the Technical Advice and the MiFID consultation document tended to assume that market data was simply bought and sold and that, in order to be made available more cheaply to the public, market data needed to be sold more cheaply by the exchanges to their commercial customers. Among the options presented for comment by CESR, segmentation of market data to offer low-cost alternatives for the public was considered purely in terms of data content. There was no acknowledgement by CESR of the way in which exchanges have also segmented data usage rights, in order to make market data available to the public either free of fees or at a fraction of the fees applicable to professional users and processors of the data.

In practice "public access" data usage rights and associated fees already exist in the data licence agreements of exchanges around the world, side by side with data usage rights and fees associated with commercial use and processing of exchange market data. Concepts such as non-professional user fees (for private investors), pay per view, and flat fees to allow distribution of data to any number of private investors were in fact pioneered in the US as far back as the 1980s. These concepts have been widely adopted and implemented by other exchanges without the need for any involvement by regulators.

As a result, the "cost" of market data, in terms of the amount currently paid by commercial organisations for rights to use and process this data, need have little to do with the amounts that these organisations need to pay, under existing data licensing agreements, in order to make real-time market data transparently available in intelligible form to the investing public. From a data licensing perspective, to argue that the overall "cost" of data should be determined by reference to the amount considered suitable and reasonable for a member of the investing public is effectively to argue that global corporations should be given unrestricted commercial data processing rights free of charge.

National Securities Regulators

Outside the USA most national securities regulators have tended to follow a principles-based approach and/or have not become directly involved in controlling market data fees, terms and conditions or the allocation of market data income.

In developing countries national governments and/or regulators may have additional aims and priorities for exchanges including, for example:

- The promotion of good corporate governance by listed companies.
- National economic development.
- Channelling of savings to well-run enterprises.[9]

SEC

The SEC was created by the Securities Act of 1934. The agency's primary mission is to maintain the integrity and stability of the capital markets and protect investors from fraud and market manipulation. Under the Securities Act Amendments of 1975, the US Congress directed the SEC to ensure that securities information access be granted on "fair and reasonable" and "not unreasonably discriminatory" terms. The exchanges and NASD (now FINRA), as self-regulatory organisations ("SROs"), were directed to jointly develop and operate a National Market System that consolidated transaction and quotation data from the various markets.

[9] See for example Yuwa Wei: China's Capital Market and Corporate Governance: The promotion of the External Governance Mechanism. http://unpan1.un.org/intradoc/groups/public/documents/apcity/unpan033861.pdf

Under the National Market System structure, equities and exchange listed options market data is consolidated and disseminated under 4 separate "Plans" which govern, among other things, the fees that are charged for market data and the allocation to the SROs of revenues from those fees.

Fee increase filings (Plan amendments) are submitted to the SEC for review. In addition, public notice and comment procedures ensure that the public can support or argue against the filings. If the SEC receives comment letters that raise significant issues, the exchange may be asked to submit a comment letter or to amend the filing.[10] Vendors or subscribers may apply to the Commission to institute fee review proceedings if they believe that a fee is so high that it creates an unjustifiable limitation on their access to market information.[11]

The SEC must approve the filing if it finds the proposed rule change is consistent with the Securities Exchange Act. In its review the SEC must consider whether the rule change will promote efficiency, competition and capital formation.

The public consultation process means that SEC rulings with regard to the detail of US market data fees structures, fees amounts and the allocation of market data revenue are subject to a constant stream of comment and lobbying and occasionally to legal challenge. As the complexities of market data usage and associated fee structures have increased, the burden for the SEC and its regulated exchanges in maintaining the National Market System have increased accordingly.

As far as we can see there has been far less attention paid in the US to the legal and administrative burden of existing equities market data regulation than to the potential impact and cost-effectiveness of proposed new rules such as those arising from the Dodd-Frank legislation.

Since the National Market System was established some significant innovations in data licensing have been approved by the SEC and implemented. These include:

- Lower fees for non-professional subscribers, associated with the data usage limitation that market data must be used by the individual natural person (rather than any type of corporate entity) and used solely for the purpose of managing the subscribers own personal investments and not for any commercial purpose.
- Enterprise licence fees options for market participants, covering use of real-time data by the market participant's own organisation and an unlimited number of non-professional subscribers via the market participant's services.
- Real-time last sale data products designed for use by internet portals, allowing display of real-time data for use by non-professional users with a minimum of administrative burden and payment of a licence fee.

Each of these combinations of "public access" data usage rights and concessionary fee structures has subsequently been widely adopted by exchanges outside the scope of SEC regulation.

For many years the SEC has received objections to exchange market data fees from data recipients and suggestions that market data fees should be restricted by reference to the cost of compiling and making available market data feeds. In 1999 the SEC published a Concept Release on this and other market data issues for public consultation purposes. Following a range of responses which revealed "deep divisions in the securities industry on market information regulation" the SEC set up an Advisory Committee on Market Information chaired by Joel Seligman. The Seligman Committee reported in 2001.[12] It concluded that the cost-based approach to fee setting was unnecessary and impractical.

> "The Advisory Committee expressly rejected the proposal in the SEC December 1999 Concept Release for SEC review of market information fees under a cost based standard somewhat similar to a utility commission review of rates."

Professor Seligman noted in a cover letter to the Advisory Committee report:

> "In my personal view, the Advisory Committee Report is most significant in its recommendation of a new, more competitive structure for market information

[10] "A Joint Report of the SEC and CFTC on Harmonization of Regulation," October 16, 2009
[11] SEC Concept Release: Regulation of Market Information Fees and Revenues, Release No. 34-42208
[12] Joel Seligman "Report of the Advisory Committee on Market Information: A Blueprint for Responsible Change", September 14, 2001 http://www.sec.gov/divisions/marketreg/marketinfo/finalreport.htm#framework

> consolidation and a less regulatory approach to this aspect of the National Market System. To a large extent, each of the Committee's recommendations is a reflection of new possibilities created by the changes that have occurred in information technology since 1975, when the statutory basis for the current market was enacted."
>
> "Technology is changing our securities markets so rapidly today that it would be wise for a more comprehensive study of securities market structure issues to be initiated. Such a study could more broadly address such topics as securities market linkage and order execution and such challenges as fragmentation of markets."

The SEC appears to have followed the essentially pragmatic approach recommended by the Seligman report, addressing market data issues in the context of a rapidly evolving market structure. It has allowed individual exchange feeds and consolidated data solutions to develop around the mandatory consolidated tape. SEC's 2010 consultation paper on market structure notably avoids abstract and emotive terms such as "transparency" and "fragmentation" and focuses on specific issues and examples of market data usage.

Despite this approach, the SEC continues to face lobbying and litigation from data recipients and a concerted campaign in support of claims that the "cost" of "core market data" (i.e. market data subject to NMS regulation) is excessive. As with the European regulatory framework and the MiFID concept of "making public.....on reasonable commercial terms", the SEC has not tied itself to any prescriptive definition of terms that are fair, reasonable and not unreasonably discriminatory. However, a common characteristic is shared by SEC–approved innovations such as the non-professional subscriber fees, enterprise licence fees and real-time last sale data fees described above. Each of these SEC-approved terms associates low-cost fees with very clearly defined and restricted data usage rights associated with private investors.

We believe this US experience is extremely valuable for other exchanges, regulators and legislators. Unlike their non-US counterparts, the SEC and the US equities exchanges have already needed to translate general concepts of transparency, public access, fairness and non-discrimination into specific contractual terms and to have their decisions subjected to rigorous public and legal scrutiny. They have done so primarily via data licensing concepts and carefully defined data usage rights. Other regulatory authorities and their legislators do not need to reproduce the US environment of lobbying and litigation in order to benefit from the best of the SEC's generally accepted decisions.

Academic studies and feedback to the SEC market structure consultation have emphasised the practical difficulties that would arise in a global trading environment if regulators were required to make judgement calls on a case-by-case basis on all market data fees and the allocation of market data revenue. As a 2007 study by Onnig Dombalagian[13] points out:

> "attempts to regulate the cost of market data run the risk of eroding the value of the core market data that is subject to compulsory licensing. On the other hand, an attempt to regulate all market data would paralyze innovation in market data products, if only because the Commission would be called upon in each case to determine whether the fees charged for each stratum of data are reasonable."

We suggest that these risks can be avoided and the risk of international regulatory arbitrage reduced if securities regulators apply an approach based on the IOSCO principles discussed earlier in this article and focused on the market data usage rights most applicable to an "appropriate level of transparency".

Commentators including Professor Seligman have identified as "core data" the subset of US market data that is included in the consolidated feeds. We suggest that in today's global trading environment it is appropriate also to identify "core data usage rights" which need to be protected by securities regulation in order to meet IOSCO standards for an appropriate level of transparency and investor protection, while recognising that exchanges and their customers need to be allowed to compete fairly in the licensing of "non-core data usage rights" related to the commercial exploitation of market data.

We also suggest that the SEC has already in effect identified "core data usage rights" for practical purposes via the data usage terms it has approved for private investors.

[13] "Licensing the Word on the Street: The SEC's Role in Regulating Information" Dombalagian 2007) http://www.buffalolawreview.org/past_issues/55_1/Web_Dombalagian%20Final%20Updated%20File.pdf

An appropriate focus on "public access" data usage rights as "core data usage rights" that must be available under licence from exchanges and other regulated market data sources could greatly simplify regulatory development and avoid unnecessary conflict. In particular:

- Arguments over the overall "cost" of market data can be seen as an unnecessary bundling of the data usage rights associated with regulatory aims for public access and the far more complex and rapidly evolving data usage rights associated with commercial exploitation of exchange market data by other corporations.
- The idea that intellectual property rights to market data need in some way to be surrendered by price-forming exchanges or appropriated by some public utility in order to provide public access on reasonable commercial terms can be recognised as misplaced and unnecessary.
- An international principles-based approach to regulation of public access to market data can be derived from existing industry best practice.
- The potential for conflict between regulatory constraints on exchanges and principles of fair competition could be minimised.
- The potential for distortion of national and international market structures resulting from arbitrary control over market data fees and allocation of market data income could be substantially reduced.

CFTC

The CFTC was established in 1974 under the Commodity Exchange Act of 1936 (CEA). Its mission is to protect market users and the public from fraud, manipulation, abusive practices and systemic risk related to derivatives that are subject to the CEA, and to foster open, competitive, and financially sound markets. The CEA was amended by the Commodity Futures Modernization Act of 2000 (CFMA). Passage of the CFMA dramatically altered futures industry regulation by establishing a system of Core Principles and tiered regulation. It also created a self-certification process to allow exchanges to implement new products and rules without prior CFTC approval.[14]

Under the CEA's principles-based approach to oversight the exchanges are given wide discretion as to how they satisfy the Core Principles. In order to disapprove a self-certified rule the CFTC must determine that the rule violates the CEA.[15]

Unlike the SEC, the CFTC does not mandate consolidation of data.

According to a 2002 study comparing stock and futures markets[16], the more activist regulatory approach of the SEC does not result in greater transparency or lower prices for market data. One of the study's main conclusions also states:

> "The equities model leads to incentive compatibility problems that create inefficiencies in cost allocation and increases the costs of implementing change within the governance structure for consolidated information. These problems give rise to observable differences in innovation and contracting in the production and dissemination of market data."

An important difference between the CFTC's principles-based approach and the SEC's rules-based approach is the sheer workload for all parties involved in adapting market data terms and conditions to reflect changes in market structure, technology and trading opportunities. Our research found no evidence that the principles-based approach to market data regulation followed by the CFTC and most other securities regulators around the world is any less effective in securing the aims of transparency and investor protection than the highly prescriptive approach introduced by the SEC in the 1970s.

The Economics of Market Data in the Global Trading Environment

Our research included a review of various economic assessments of market data and or exchange fees structures, produced by respondents to regulatory consultations and/or their economic advisors. In the context of the global trading environment we describe in this article, we found these

[14] Steven Lofchie, Michael Macchiarola, Robert Zwirb and Elizabeth Richards, "Financial Institution Regulation in the United States," May 1, 2008.
[15] "A Joint Report of the SEC and CFTC on Harmonization of Regulation," October 16, 2009
[16] Sharon Brown-Hruska, Competing Models for Market Data Dissemination: A Comparison of Stock and Futures Markets, June 20, 2002

assessments provided at best an incomplete impression of the overall economic value of exchange market data.

In the regulatory documents, consultation papers and responses covered by our review we found little or no reference to the economic value of rights to use and process exchange market data for the purposes listed above. There appears as yet to be very little objective economic analysis of these "non-core data usage rights". Our study indicates however that they could be highly significant for the following reasons:

- there are clear indications of free and fair competition in the licensing of these rights: MTFs compete with exchanges to provide data as the source for international indices; where an index provider or issuer cannot reach agreement with a particular exchange it is possible for indices to be created and funds or derivatives issued which do not depend on the exchange's market data. The need for intrusive involvement of securities regulators is therefore unclear.
- in many cases, particularly for emerging market exchanges, these rights are not yet covered by exchange market data licence agreements. They are therefore likely to play an increasingly significant role in global data licensing.
- As noted above, these data usage rights have very little to do with providing transparency of the exchange's market data to the public, yet they could easily be caught up in any arbitrary restriction imposed on the "overall cost of exchange market data". Potential consequences in terms of financial damage, distortion of competition and restriction on innovation should therefore form part of the impact analysis of any regulation of market data fees.

In the course of our research we also reviewed economic analyses on behalf of market participants which purported to show that the fees charged by exchanges were excessive, amounted to an abuse of dominant position and should therefore be subject to constraint by securities regulators. Submissions of this type covered by our review appear to share the following weaknesses:

- They seek unrestricted commercial data usage rights in return for a restricted, regulated fee.
- They do not acknowledge that the economic value of these commercial usage rights is increasingly unlikely to be fully reflected by trading on the price-forming exchange.
- They take no account of the various means via which exchange licence agreements provide members of the public with low-cost data usage rights.

In summary, we have yet to find any convincing and objective assessment of the economic value of exchange market data in the global trading environment. In this situation any attempt by regulators or legislators to specify and maintain "fair and reasonable" prices for unlimited commercial use of market data appears to be practically impossible and inconsistent with principles of free competition. For reasons given above, we also believe that such an attempt is neither required nor justified by internationally accepted principles of securities regulation.

Summary and Conclusions

1. In today's global trading environment, price discovery drives markets and commercial activities outside the price-forming exchange. Data recipients compete with exchanges in trading and data licensing activities, in many cases processing the exchanges' own market data in order to do so.
2. "Traditional" data vending, display and distribution of data represents a decreasing fraction of the economic use and value of market data.
3. Licensing of data usage rights is key to overall exchange operations. In emerging economies it may also affect national capital market development.
4. International standards and principles of securities regulation do not expressly require control over market data fees. Calls for control over market data fees have been related to the interests of "transparency".
5. In Europe regulatory requirements in support of transparency tend to be expressed as abstract principles such as "making public...on reasonable commercial terms". These principles have yet to be defined in terms of specific data usage rights, although under MiFID II and MiFIR the authorities reserve rights to define them via subsequent legislation.
6. Exchanges have for many years made market data available for free or low-cost use by members of the public. Specific data usage rights relevant to public access have been acknowledged and

approved by the most interventionist of regulators (the SEC) as consistent with legal obligations to make data available on fair and reasonable terms without unreasonable discrimination.

7. Many of the data usage rights most relevant to the development and operation of today's global trading environment involve the commercial processing of exchange market data to support trading on other venues and in other instruments. These rights have little to do with making the exchange's data available to the public but could be affected by any arbitrary controls over market data fees.
8. There appears to be no objective analysis of the potential economic impact in today's global trading environment if data recipients were allowed unrestricted commercial data usage rights but exchange fees were subject to arbitrary limits by regulators. As a result regulators have no safe and reasonable basis for intervention of this nature.
9. An international principles-based regulatory approach to compliance with transparency obligations which focused on "core data usage rights" (i.e. those directly associated with public access) could greatly simplify regulatory debate and avoid unnecessary conflict. In particular:
    - Arguments over the overall "cost" of market data can be seen as an unnecessary bundling of core data usage rights and the "non-core data usage rights" associated with commercial exploitation and processing of exchange market data.
    - Suggestions that intellectual property rights to market data need to be surrendered by the data sources or appropriated by some public utility, in order to provide public access on reasonable commercial terms, can be seen as misplaced and unnecessary.
    - Direct involvement of securities regulators in the commercial terms for access to market data (if considered necessary), could be limited to core data usage rights so as to minimise any unintended and adverse effects on the operation of capital markets.
    - The development and licensing of non-core data usage rights could be encouraged and regulated within existing international frameworks of free trade and competition regulation, taking account where necessary of the particular needs of emerging market economies, without the need for arbitrary intervention by legislators or securities regulators.
10. In the USA, where the cost-effectiveness and unintended consequences of proposed new securities legislation and associated rules are under increasing scrutiny, the existing SEC market data rules and their legal framework could also usefully be reviewed and revised to focus on core data usage rights, allowing non-core data usage rights to be more effectively regulated via principles of fair competition.

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