Closing Prices and Other Stock Exchange Data:

Copyright and Competition Law Issues

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Executive Summary

This paper reviews the claims made by many of the world's stock and trading exchanges regarding closing prices and other trading data - specifically that they own the copyright and are entitled to control access, use and distribution. While there is little direct jurisprudence, it is increasingly clear no copyright exists on the data and that stock exchange databases are unlikely to enjoy database protection. Attempts to impose unreasonable terms and conditions, including but not limited to charges levied, may violate dominant position rules in the EU, and competition laws in the United States.

Can There Be Copyright in Closing Prices?

Copyright requires originality. This means that there must be some contribution of ideas or skill to the written or recorded expression of the work. Closing prices are in essence "facts" and are computed without ideas, skill, or independent intellectual effort. And "mere facts cannot be copyrighted"[1].

The simplest definition of a closing price is "the final price at which a security is traded on a given trading day... the closing price represents the most up-to-date valuation of a security until trading commences again on the next trading day" (www.investopedia.com) or "the price of the final trade of the trading day" (www.investorglossary.com), this is not always the case.

This has been an evolving position. Since the late 19th century, UK courts acknowledged the existence of copyright in the arrangement of content that is not of itself copyright – the old "railway timetable" cases, for instance, effectively protected the "sweat of the brow" work in compiling these publications. But in 1964, in Ladbroke (Football) Ltd. v William Hill (Football) Ltd., the House of Lords clarified that approach. Although the ideas do not need to be original, there must be some originality in how those ideas are expressed. Effort alone is insufficient.

Since then, courts in many countries have largely rejected copyright protection for facts and compilations of facts, regardless of the skill and effort invested. In the US Supreme Court decision of Feist Publications Inc. v Rural Telephone Service (1991), the court ruled that the defendant's directory was nothing more than an alphabetic list of all subscribers to its service, which it was required to compile under law, and that no creative expression was involved. The fact that Rural spent considerable time and money collecting the data was irrelevant to copyright law. The outcome was repeated a few years later in a case involving the transmission of basketball scores: National Basketball Association v Motorola, Inc. [105 F.3d 841 (2nd Cir. 1997)].

Several US cases are relevant in determining the standards needed for the copyright to apply to data. The general principle - reaffirmed in Feist - is numbering systems that select numbers randomly and arbitrarily, or which are sequential, lack the originality to be copyrightable: Mitel, Inc. v Igtel, Inc. (1997); Toro Co. v R. & R. Products Co. (1986).

The most notable exception to this was American Dental Association v Delta Dental Plans Association (1997) involving a claim that the defendant had violated the ADA code for classifying dental procedures. The ADA succeeded because it was able to show a sufficient level of originality in how the code was compiled and the procedures described. Closing prices, though, do not have any of the elements that make the code original, and so the ADA decision is entirely consistent with a conclusion that closing prices enjoy no copyright protection in the US.

Canadian courts have taken a similar approach, where a compilation of essentially unoriginal data is not copyright - see the Federal Court of Canada's decision in Tele-Direct (Publications) Inc v American Business Information (1997) and the more recent 2017 case Canada (Commissioner of Competition) v Toronto Real Estate Board. While UK law protects the certain design and typographical elements of published works, including compilations of facts, facts in and of themselves do not get over the originality threshold. Australia has also moved strongly in this direction. This was affirmed in Telstra Corporation Ltd. v. Phone

[1] **Siegel, P. (2008) Communication Law in America. Lanham, MD: Bowman & Littlefield, page 238**

Directories Company Pty Ltd. (2010). The judge gave several reasons for his decision on why directories could not be copyright, including "the lack of independent intellectual effort" and the need for "sufficient effort of a literary nature". His focus here was the lack of identifiable authors, arising largely from the computer-generated nature of the content. Closing prices, of course, both individually and in aggregate, emerge in the same way.

The trend noted in these cases was also reflected in the European Commission's 2011 decision in the Standard & Poor's case (ref: COMP/39.592). It involved the charging of licensing fees for US International Securities Identification Numbers (ISINs) and Standard & Poor asserted that they owned copyright over both the ISIN databases and the individual numbers. An ISIN is essentially a reference number. There is some structure and rationale to the numbering system, but the number assigned to a security is built from a country code, the issuer code, the issue code, a check digit relating to the two previous components, and then a final check digit applicable to the entire sequence. In paragraph 39, the European Commission "took the preliminary view that S&P does not own copyrights in respect of US ISINs, either as a database or in respect of the individual numbers". Also, paragraph 42, cited several examples; "Relevant national precedents found that individual numbers are too trivial or not original enough to constitute material that can be subject to copyright".

Most stocks are traded after hours, generally in smaller volumes, which can affect the reported closing price as well as algorithmic adjustments made by some exchanges to the actual price of the last trade. Then there is the "adjusted" closing price, which factors in corporate actions, such as stock splits, dividends, and rights offerings. Therefore, a spectrum of closing prices, some no more than a mathematical statement and others that reflect various adjustments.

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> *Except as is otherwise indicated, the Exchange is the owner of the copyright in all the Information featured on this Website and of all related intellectual property rights, including but not limited to all database rights, trademarks, registered trademarks, service marks and logo.*

Most stock exchanges take similar positions in negotiations and contractual dealings with Internet Service Providers, direct and indirect users of its data services. Similar issues arise with other entities that control pricing and indices, which they sell to end-users and third-party aggregators.

Closing prices, which are a record of fact or the product of a mathematical adjustment to a fact, are not protected by copyright in the EU, UK, or the US.

Database Protection

While facts are not protected by copyright law, this doesn't mean that the gathering of those facts into an electronic database is without some level of protection. But how this works in practice differs on each side of the Atlantic.

In the European Union (EU), even if facts are not copyrightable in themselves or a compilation, the organization and management of those facts can qualify for protection under the database right. In determining the nature and scope of any rights held by stock exchanges, it is necessary to consider whether the creation of databases of closing prices comes within the database right.

The EU Directive (96/9/EC) on the legal protection of databases required member states to introduce legislation that would:

- provide copyright protection for databases where it could be said that the selection and arrangement was sufficiently original to amount to a separate intellectual creation; and
- create a distinct right (the sui generis right) for databases on account of "substantial investment", to prevent "extraction and/or re-utilization" of all or a substantial part of the content.

In the UK, the Directive was implemented by the Copyright and Rights in Databases Regulations 1997. These provisions - which took effect on January 1, 1998 – are the same as those in the Directive. There are two relevant decisions of the European Court of Justice (ECJ) on the scope and application of the database right.

The William Hill case (British Horseracing Board Ltd v William Hill Organization Ltd. Case C-203/02) involved a reference to the ECJ following legal proceedings in England between the parties. Proceedings were brought against William Hill when it refused to stop using data supplied by the Board, which claimed that this infringed both the sui generis right and another provision in the Directive that are intended to prohibit "repeated and systematic" use of "insubstantial" parts of a database. William Hill abstracted data from newspapers published the day before a race and from a raw data feed supplied by an intermediary service to which it subscribed.

The ECJ was required to address a range of issues, and its conclusions can be summarized as follows:

- The criteria relating to the level of investment in a database are confined to identifying and obtaining data, and not in the subsequent compilation and related technology investments.
- If these activities are primarily required to meet the database operator's separate business needs, that will make it less likely that the investment arguments can be sustained.
- "substantial" must be assessed for quantitative purposes concerning the total volume of the database.
- "substantial" must be assessed for qualitative purposes in the context of the investment needed concerning the content being taken without authorization.
- The "maker of the database" can, under the sui generis right, lawfully prevent unauthorized "extraction" and "re-utilization".
- The sui generis right can only be enforced when these unauthorized activities "seriously prejudice the investment" of the database owner.

The ECJ sided with William Hill on all the key points. Within the EU, databases will be protected only if the operator has done something significant in the collection and compilation processes, or if the unauthorized activities effectively decimate their commercial market.

As noted above, the term “closing price” does not have a constant meaning. Although on some exchanges it is the final price at which a stock traded before the end of business on that day, most exchanges and certainly all the larger exchanges now use algorithms and formulae to calculate the official closing price. The question that therefore arises is whether this is relevant to determining if the database operator has made a “substantial investment”.

Although there are almost certainly costs of creating, testing, and applying these artificial calculations, they do not represent a relevant investment for these purposes – the primary purpose has nothing to do with the database and is incurred as a by-product of the listing and trading functions of the exchange.

That primary purpose ties directly to what was, for the British Horseracing Board, the fault line in its litigation against William Hill. Everything to do with closing prices and their inclusion in databases created and maintained by stock exchanges is in pursuance of their raison d’être. While selling levels of access to their data, licensing its use and redistribution, is undeniably important business activities, they are in this context simply ways to defray costs and/or generate additional revenues.

Another database decision also involved a sporting activity. In Football Dataco, the Football League Ltd and others v. Yahoo! UK Ltd and others [Case C-604/10] the content was football fixture lists. These were not generated automatically, and the ECJ indicated that while it was a matter for national courts to decide, they probably were copyright.

The first issue before the ECJ was "whether the intellectual skill and effort of creating data" should be excluded from the determination of whether the data qualified for database protection. This was answered in the affirmative. The second issue was whether "the significant labor and skill required for setting up" the database justified protection in the absence of "originality in the selection or arrangement of the data which the database contains". This was answered in the negative.

Taken together, the two decisions set a high bar for database protection in EU member states. It is unlikely that any extraction of closing prices from a stock exchange site will infringe rights under the EU Directive and applicable domestic legislation because:

- There is no originality in the selection and arrangement of closing price data in any stock exchange database.
- Only minimal investment is incurred in identifying and obtaining closing price data, and any subsequent compilation and related technology investments are irrelevant.
- Dissemination of closing prices is an activity undertaken primarily to meet the exchange's core mandate, and that makes it unlikely that the investment tests for database protection can be sustained.
- The sui generis database right can only be enforced when unauthorized extraction and redistribution seriously prejudice the exchange's investment”, but the investment in a content licensing business operated by an exchange in addition to its core mandate is not relevant to that determination.

Taking a different approach than the EU, the United States chose not to enact specific database protection laws. This is rooted mainly in the Feist decision, where the Supreme Court said that the correct interpretation of the Copyright Act regarding compilations and originality will only accord copyright protection to facts that have been "selected,

coordinated, or arranged in such a way that the resulting work as a whole constitutes an original work of authorship".

That logically extends to databases, which are essentially compilations. While the facts themselves are not copyrightable, the entire database (or at least a substantial portion of the database) might be, as might the internal organization of the database if it has been structured as more than simply a list. To get to that point, though, the database must be built on elements of selection that meet the test of the creative and original expression. And even then, no single data point is copyrightable. In the context of closing prices, this sets an impossibly high bar as there are no organizational elements of an Exchange closing prices database that can get much beyond being a list.

Consequently, neither European nor American Exchanges derive any protection for their databases. Their response has been to resort to contracts as a mechanism to control access to data, the financial terms on which access is granted, and the downstream use of licensed data. There is a growing backlash to this practice, which is becoming increasingly anti-competitive.

Competition Law Issues

Although closing prices are not copyrightable, and databases of closing prices are rarely if ever, protected by the database right in the EU or compilation copyright in the US this has not stopped some stock exchanges from using their monopoly status as vendors to impose restrictive contractual terms for receiving, using and redistributing closing price data. The question that then arises is whether there is a legal remedy based on (in the EU) abuse of dominant position or (in the US) anti-competitive behavior. If information is distributed subject to the terms of a license, the user is bound to these terms unless it can be shown that the contract was not properly formed (which is not the case in this instance) or that the terms are abusive. Competition law could be invoked in the case of refusal to license, but this recourse is granted only in exceptional circumstances.

In the EU, one important factor in this determination is whether the licensor is the sole or primary source of information. If so, there is a 2004 decision of the European Court of Justice (IMS Health GmbH & Co. v NDC Health GmbH & Co) that might apply, provided various conditions are met:

- the provider must have a dominant position.
- the abuse of its dominant position affects the Internal Market and hinders competition.
- the refusal to supply cannot be justified by objective considerations.
- the effect of refusal is to reserve to the stock exchange the entire relevant market by eliminating all competition either by refusing to supply or by imposing terms and conditions that affect the ability of other prospective vendors to be competitive and profitable.

There is certainly a strong argument for claiming that any EU stock exchange would be abusing a dominant position and acting in a way that unlawfully impedes competition in the Internal Market if (a) closing price data are collected and disseminated by stock exchanges for their own internal and business purposes and (b) their licensing operations are a way of monetizing content supplied to and/or collected by the exchange because of its core activities. While cost recovery is permitted, as is the cost of value-added services, it is unlikely that a national stock exchange operating as a monopoly or quasi-monopoly can leverage its core mandate into a for-profit business by imposing unreasonable prices or oppressive terms to protect that business. This emerges from the IMS Health decision, and the ECJ discussion of pricing and related issues in the Standard & Poor's decision.

Contracts Between Exchanges and Third-Party Vendors

These contracts usually include restrictions on disseminating the content supplied. Can that be enforced? A vendor can discontinue supply for breach of the terms of the agreement, but the nature of the data and the source might make that open to challenge. For instance, ECJ decisions suggest an exchange that denies access can be challenged for anti-competitive behavior if there is no alternative source, the data is not copyrightable, or the primary motive is to restrict competition.

More problematic is when a third-party vendor has a contract with an exchange that authorizes redistribution through to end-users, but the contract purports to control this redistribution either by requiring the end-user to have its contract with the exchange or by requiring the inclusion of terms and conditions set by the exchange and to pay additional fees. The third-party vendor is effectively caught in the middle, and many are now questioning the validity of these clauses, which seek to compel their clients to accept the terms and conditions of an exchange with which they may not have a direct contractual relationship.

The core issue is whether those terms and conditions are abusive or unfair. In other words, whether exchanges are exploiting access to data which they generate but do not own, to impose contractual terms that are oppressive or designed to inhibit competition.

It is also instructive here to reference (see page 5) the EU position on database protection. Key factors include whether an exchange has a dominant position and whether any investment in its databases is a consequence primarily of its need to meet its core mandate. Extrapolating from that, some principles might assist in assessing anti-competitive behavior with exchange licensing of data:

- if an exchange is the monopoly source of data (whether by legislation or just longevity) it cannot use that monopoly in an abusive way.
- this probably means that it cannot refuse to license data acquired or generated in pursuit of its core functions.
- if copyright does not exist, it cannot be created or enforced by contract.
- in pricing licensing agreements, these cannot be used to defray costs that would be incurred anyway by an exchange to undertake its core functions – in other words, only incremental costs tied to developing and maintaining a commercial interface, and the additional administrative costs, can be recouped [NASD v SEC 1986]

As this last case cited shows, there is also a regulatory component in the US to pricing exchange data, although its scope and effectiveness are uncertain. Security Exchanges are required to file all fee proposals with the Securities & Exchange Commission (15 U.S.C. § 78a) and must be reviewed by the SEC to ensure consistency with the legislation. There are three main requirements:

- any proposed fee and other charges must be allocated equitably.
- they mustn't be designed to permit unfair discrimination between customers, issuers, brokers, or dealers.
- they mustn't impose unnecessary or inappropriate burdens on competition.

Historically, the SEC has done very little by way of its review obligations. It nonetheless has them, and recent exchange pricing decisions should face proper scrutiny. In the last few months, there have been two developments. First, in June 2020, a federal Appeals Court ruled that the SEC was wrong to reject certain market data prices imposed by some of the

major Exchanges. But in doing so, the Court suggested that the SEC might have succeeded under a different section of the applicable legislation. Secondly, just six months later, the SEC announced rule changes designed to "increase competition and transparency, which will improve data quality and data access for all market participants". Taken together, the ability of Exchanges to leverage their public and regulated functions for private profit is being challenged.

Analysis

No laws are dealing specifically with exchange-generated data. This means that many of the issues that arise concerning the exchanges - and especially those involving unauthorized uses - are difficult to resolve. In almost all the cases that have been litigated (and in all of them in the last 30+ years), courts in both the US and the UK have declined to find any copyright in these data. Although there may be exceptions, judges have ruled that they are not original and no creativity is needed to generate a closing price (or a numbering system or an index value) - see Dow Jones v Board of Trade, Standard & Poors v Comex, BanxCorp v Costco, Ladbroke v William Hill, New York Mercantile Exchange v ICE.

The underlying rationale of these decisions is that no real effort has been expended, at least in the sense required by copyright law, because much of the heavy lifting is either technological or while perhaps difficult, time-consuming and expensive to create, is essential "sweat of the brow". While there are significant differences between UK/EU and US copyright law, the conclusions are broadly the same regardless of where these disputes are litigated.

Some of the cases discussed above involved a type of contractual copyright, where terms of use for a website might require the user to acknowledge copyright. The jury is, undecided, out on this, but there is a strong belief in the academic sphere that copyright cannot be created (or pre-empted) by contract and that provisions of this kind are ineffectual.

Conditions in a licensing agreement that serve to enforce a monopoly are currently being tested in Canada in a dispute between the Competition Bureau and the dominant real estate listings service. Similar issues have been raised in the Nymex case and EU cases involving national stock exchanges. Just how significant abuse of dominant position will be in heading off claims by index providers is uncertain, though. The EU appears slightly more sympathetic to the concept than the US, but at this point, the most that can be said is that it may be a factor to consider when dealing with monopoly sources of supply.

Conclusions

There is no credible basis for any stock exchange in the EU (or the US) to claim copyright in closing prices or indices. Even by the most indulgent standards, closing prices are below the standards of originality and substantiality required under copyright legislation, regardless of whether they are the product of algorithms or the actual final trading price of the day.

A database of closing prices does not meet the standards for database protection under the EU directive, because the data is acquired without significant investment in their sourcing and identification. While there is a sui generis right not to be unfairly prejudiced, the small volume of data involved and the fact that the stock exchange's licensing business is secondary to its primary purpose of compiling the database is likely to take it outside that limited protection. Also, while not directly on point, the 1986 decision in NASD v SEC strongly suggests that exchanges cannot use licensing revenues to subsidize their core-data generating activities undertaken on behalf of members and users.

While not entirely within the criteria established in the IMS Health case, it is certainly arguable that at least some of the stock exchanges in the EU would be abusing a dominant position and limiting competition within the Internal Market if, with no objective justification and with the consequence of increasing costs to consumers, they imposed unreasonable prices and conditions on users of closing price data. By extension, preventing commercial aggregators from accessing and reselling these are other data will run into significant competition law barriers.

Weaving through most of these decisions are several realities:

- many exchanges are public or quasi-public entities.
- they are often required to generate data as part of the trading that they undertake.
- the investment needed to create the platforms is primarily to support those trading activities.
- while there cannot be any objection to charging reasonable prices to third-party resellers, these must be designed to recoup incremental costs.

Where exchanges cross a line is when the external pricing of the data is intended to exploit a monopoly, near-monopoly, or to limit competition with an exchange's own licensing business. A recent example is an attempt by the Chicago Mercantile Exchange (CME) to not only increase its prices and introduce completely new charges for data that previously were available free but to require redistributors to provide the names of their clients, prompting concerns that the CME may try to disintermediate the data vendors and deal directly with end-user clients.

These issues are now engaging the interest of regulators concerned to ensure both access to key financial data and fair competition. Early indications are that UK and EU regulators may be more open to investigating how exchanges price market data as they can address these issues through existing regulatory mechanisms such as the Financial Conduct Authority and the European Securities and Markets Authority. But the SEC has in the past intervened in specific exchange pricing proposals, and there are growing calls for action by the Commodity Futures Trading Commission.

Exchanges play a vital role in collecting and managing market data, which is intrinsic to their core functions where associated costs are paid for by market participants. Whether through legislation or regulation, most exchanges control the market data produced as a by-product. They do not own them, though, and they cannot assert copyright for the reasons discussed

above. While not settled, there may be limited database rights accruing to the exchanges, and to the extent that there are costs incurred in external licensing, these and reasonable overheads can be recovered. What they cannot do is subsidize their primary operations or impose prices and restrictions on third-party users.

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