The Information Providers User Group (IPUG) is grateful for the opportunity to respond to the **IOSCO Consultation Report on Market Data in the secondary equity markets**

IPUG is a non-profit organisation, established in 1989 to represent the current and future interests of its member firms. It is the main organisation in the UK representing users of Market Data services on a technical, administrative and strategic level. IPUG members include retail banks, corporate banks, Wealth Management firms, Asset Management firms, Investment Banks, Central Banks, Hedge Funds, Sovereign and Supranational institutions.

Members meet principally in locations around the City of London and Canary Wharf. New sister IPUG groups have also been formed to cater for market data professionals and reference data professionals in Edinburgh, Asia (Hong Kong, Tokyo, Singapore and Sydney), and across Europe. IPUG meets all its members annually in Paris for one day "European IPUG / COSSIOM Event" where topics like those covered by IOSCO, ESMA, EU DG COMP, BAFin, AMF, FINMA, FCA, etc…are presented, explained and members knowledge shared.

In line with its commitment to represent new industry trends, IPUG continually seeks to monitor the technology and business process developments which affect the industry within the City, Europe and Asia.

The collated responses of IPUG members to questions 1 to 16 of the "IOSCO Consultation Report on Market Data in the secondary equity markets" are contained within this document.

IPUG very much supports the work of IOSCO in this area and welcomes the opportunity to engage at every opportunity, be that in London, Edinburgh or remotely.

Yours faithfully

Information Providers User Group

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"The document and its findings are fully supported by the German Bundesverband der Wertpapierfirmen (bwf - federal association of securities trading firms) which is not an IPUG member but actively participated in the discussion in the course of elaborating IPUG's response to IOSCO."

bwf
Bundesverband der Wertpapierfirmen

Defining Core Market Data

IOSCO is requesting feedback on what elements of market data are, or should be, considered Core Market Data

> *Q1. Please identify the data elements that are necessary for investors and/or market participants to participate effectively and competitively and make informed trading decisions in today's markets. In your response, please consider:*
>
> *Q1a• The type of investor (e.g. retail or institutional) that uses the data;*
>
> *Q1b• How orders are sent to a trading venue (e.g. electronic, manual, direct access by clients; and*
>
> *Q1c• How orders are routed*
>
> *Please provide the reasons why each element is necessary.*

The IOSCO questionnaire is for **Listed Equity Market Data** only, we will then answer in *Figure 1* by explaining how the market of market data looks like:
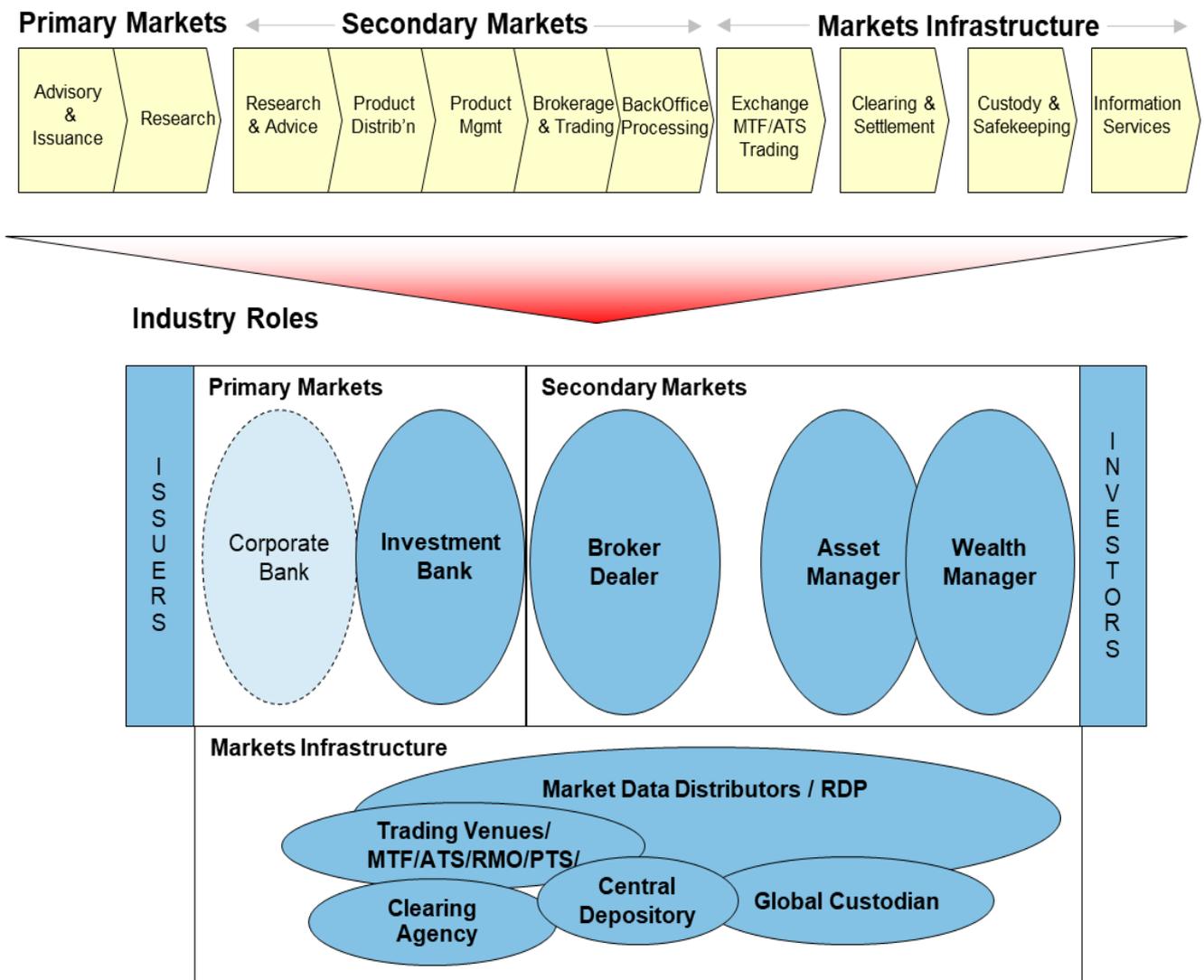

Figure 1

We then move one level deeper in *Figure 2* by explaining which functions are performed by IPUG members in their respective firms with respect to the data usage.
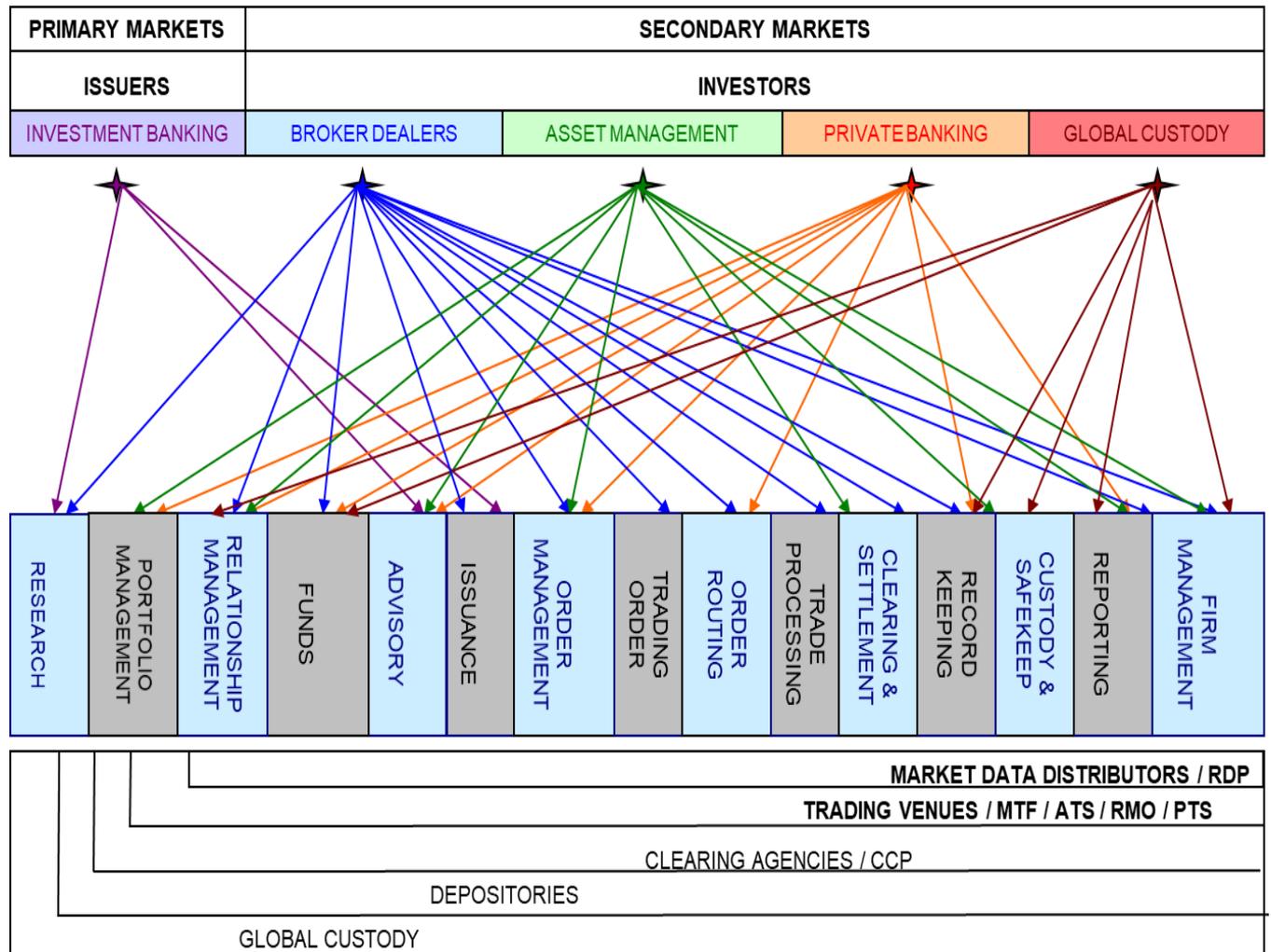

Figure 2

Q1a In our field of competency the type of investors we have as members is the *Institutional* profile, not retail. For the Institutional investor, three types of data are required:

➢ **1 Trading Data** (inc. data source/result of transaction decision)
- Time and Sales (Tick by Tick data) / Quotes / Price / Volume / Depth of Order book / Best Bid-Offer (BBO) / Indicative / Executable
- Trade advertising / Request For Quotes RFQ / Indication Of Interest (IOI) / Orders / Cancels
- Chat / Instant Messaging / Messaging

➢ **2 Analytics**

- Historical data / Enhanced data / Time series / Analytical data / Fundamentals / Technical analysis

➢ **3 Reference Data**
- Characteristics / notices / regulatory / statutory info
- Holdings / Corporate Actions / Class Action / Ex Div periods / Stock Splits
- Counterparty details

Q1b Orders to Regulated Trading Venues (RTV's) – we will use the **Trading Venue TV** terminology used by IOSCO in this document instead - are typically sent according to a Trade Life Cycle process.

It uses communication industry standards, mostly FIX, or sometimes using the exchange/RTV proprietary gateway/API format as required but the steps as defined below are consistent across all institutional parties.

In the Trade Life Cycle, from an Investment Bank point of view, a number of services need to be implemented to support Buy Side client's and own execution activities. Those primarily include analytics (IOI, Trade Ads), pre trade risk (credit limit), market connectivity, and order routing. These by default follow the Trading Venue (f.k.a Exchanges, Execution Platforms, ECN, etc…) onboarding process as there is an electronic connection between the Buy Side clients and the Trading Venue. In addition, some of those Third Parties are regulated or registered services but this area also encompasses unregulated connections and services to the extent that they are essential to the Sell Side execution capability. Orders are routed in different ways from the shortest and lowest latency colocation facility where centimeters do count to the Institutional, often hedge Fund and TVs members/participants. – see Figure 16 – For Retail investors, execution latency is not the main decision factor but nevertheless access to listed equity market data is the core requirement.

Pre-Trade Third Parties do not consider themselves a Regulated Market in any way in the EU for example. They do not therefore regard themselves as an execution platform or a broker dealer either.
They contractually position themselves as providers of a technology solution (which is exactly what they are) even when they are owned by an Exchange Group like Nasdaq, ICE/NYSE, LSEG, etc... IPUG has communicated with a number of them and asked them to review documents like MiFID II Rulebooks on OTF, MTF, and even SEF in the US, and on the back of such questions feedback is that they do not consider themselves as regulated but some Regulatory and Supervisory Authorities are asking them to register...
To define what they really do, Pre Trade third parties are not participating in trades, they are not taking positions, they are not committing capital, they are not introducing counterparties, and they were historically not charging per transaction but this trend is changing with Virtu/ITG, Bloomberg, Charles River, and similar third parties originally in the US but now spreading their fees/charges globally. The functionality is balanced for Indicative and/or Executable events on Indication Of Interest IOI, Trade Ads, Axes, commonly used under the terminology Request For Quote-RFQ but due to asset classes differences we also see Request For Stream RFS and Unsolicited Quotes UQ

now under this Pre Trade scope. It allows for almost unlimited number of banks, Liquidity Providers to be reached for each Price/Stream request. Broken dates and odd lots are enabled for example and one of the main purposes is to capture all price quotes at time of execution for TCA analysis and audit trail when mapped to trade history sources.

It resides on a voice/hybrid/electronic platform and allows for a front-to-back (F2B) integration with OMS/EMS third parties, chatbots, pricing systems, and other productivity enhancing tools. Typically, IPUG members find that when a quote is accepted then the Pre-Trade system – bar the Pre-Trade Risk System detailed below - has no further involvement ahead of execution.

Indication of Interests & Trade Advertisements

IOIs are non-binding expressions of trading interest that contain one or more elements of security name, side, size, capacity and /or price sent by Sell Side to inform other market participants that it seeks to, or represents trading interest that seeks to, interact with order flow in the security.

Trade Advertisements shows the historical volume of secondary equity trades executed by a firm. A firm voluntarily releases this information to clients and / or service firms (e.g. Vela/Autex, Bloomberg, LSEG/Refinitiv, Tradingscreen, Virtu/ITG) which distribute the information more widely to Buy Side subscribers. Trade Advertisements are used by Buy Side investors as a pre-trade analytic to help them determine which brokers have recently had access to the greatest amount of liquidity in a particular security and are therefore most likely to execute the contra side of the investors order with the minimum market impact. The data can also be used by corporate entities to gauge which brokers are most likely to be interacting with clients that invest in their security or sector and are therefore most likely to be in a position to help them raise additional capital.

Cross Connect

A cross connect usually describes a cable (or even microwave/laser) run between two different locations or areas within an execution data center. For example, it may be from an exchange handoff to the customer's cage or between the cages of two different firms to establish connectivity.

FIX Connection

The Financial Information eXchange (FIX) Protocol is a series of messaging specifications for the electronic communication of trade-related messages. It is used as protocol between a Sell Side and its Buy Side clients for enquiry/order routing.

EMS

Execution Management Systems EMS are front end displays (Execution terminals like Bloomberg EMSX, LSEG/Refinitiv Redi, etc…) used by Buy Side (Asset Managers, Hedge Funds, Investment Managers) as tools providing liquidity aggregation and access to smart order routing, algorithmic trading tools, and TCA. While equities were the first asset class, FX and futures/options have now caught up available as virtual order books from brokers and trading venues for order driven markets. For the most

illiquid instrument EMS embedded functionality now covers, Price Discovery, TCA and even automated Request for Quotes.

OMS

Order Management Systems OMS allow for the two separate areas at Buy Side (Asset Management, etc…) firms – front-office and middle/back office to work together. Back office systems were typically designed as static processing and accounting systems; they were not intended to handle intra-day trading or other front-office data. For example, in relation to trading workflow, there was no capability to implement different Financial Information eXchange (FIX) workflows. There were no real-time updates when algorithms sent back fills, execution traders could not quickly generate an order or bulk orders to get out to the market during volatile periods and splitting allocations on grouped orders was almost impossible. To solve these front-office workflow challenges, and interact with the back-office systems, the OMS was created. OMS's were built to load Start-of-Day positions to give the Buy Side trader a view of their positions. They were able to react quickly to market conditions with quick trade tickets, they could route grouped orders via FIX to several Sell Side execution desks and split the order into its corresponding allocation.

O/EMS

With the evolution of clients' needs and the emergence of cross-asset trading, a combined order-execution management system has been developed since MiFID I. IPUG members had difficulty finding the ability to tie together an OMS with an EMS via a FIX link. Because orders from the OMS are transmitted to the EMS via the FIX protocol and the executions flow back over FIX to the OMS, these are two distinct pieces of software. As detailed above, an EMS is messaging- and event-driven whereas an OMS is database-driven. Nevertheless, the design of the most recent O/EMS under the same event-based architecture, coupled with the latest software framework allows for a completely seamless O/EMS. As a result, any change in the OMS is immediately recognized by the EMS allowing the Portfolio Manager to drive his/her investment strategy in a much more efficient way.

ORS

Order Routing System is used by Buy Side (but also Sell Side dealers) to recreate the best view of the market. ORS are the *"eye and ears"* of the Buy Side (Asset Manager, etc…) as it allows them for each instrument and each market to constantly listen to all the bids & offers available so that when the OMS creates and order and the EMS (via the Asset Manager) activate it, the ORS will have the best bid and best offer already identified taking into account limits, broker preferences and other risk and analytics parameters.

Colocation/ Proximity Hosting

Colocation describes when a computer trading system is housed in the same physical data center and often within a few meters as the rack/cabinet of the trade matching engine of a Trading Venue (exchange or liquidity pool). A computer system can be close to another data center that contains a trade matching engine or liquidity pool. In this case, the systems cannot be described as collocated, but *proximity* hosted. For

example, the Savvis data center in Weehwaken NJ USA is not far from the Equinix facility in Secaucus NJ USA. Savvis contains the CBOE BATS trade matching engines for both the underlying markets and options. Equinix contains CBOE Direct Edge, BOX, CBOE, C2, ISE and Hotspot FX. The buildings are approximately 100 microseconds away. It is therefore possible for Savvis to sell proximity services to access the CBOE Direct Edge order book and all the other liquidity pools at Equinix. Note that there are also some data centers that lie at various optimal junctures between the data centers containing trade matching engines.

These completely neutral data centers often specialize in selling _proximity_ services". The rack space at these data centers is normally cheaper than that available close to the Trading Venues (exchange or liquidity pools) in colocation. Another example of proximity hosting is in Tokyo and Osaka data centers where colocation is extremely restricted due to local regulatory framework – Members Only presence allowed in colocation - and quasi-monopolistic offering from KVH the domestic hosting services and connectivity player.

Pre-Trade Risk / Credit Limit

Sell Side dealers need a tool to monitor credit requirements of each clients and it is especially important in the world of _prime brokerage_ in which a client is trading in the name of their Prime Broker (PB) with Execution Brokers (EB) who have a role of Liquidity Providers (LP) in the street. These defined credit limits are required for each PB client with each of EB counterparties whatever the asset class. In case a currency PB client was to fold, an EB would hold a bi-lateral trade with this client with whom it has no economic relationship and as a result would have no ability to reclaim its investment. There exist a suite of more complex limits that govern the trading on anonymous currencies trading venues (ECN/ETS) like the simple Net Open Position (NOP) and Daily Settlement Limit (DSL) tri-party limits (between clients, EB and PB). On these ETS, EB often face difficulty monitoring such clients, as they are unaware of which currency PB client it trades with because each ETS has its own proprietary credit exposure calculation methodology. This means the EB has to sort through all of the multiple reporting formats and timelines to create a clearer credit picture for its Currencies PB client portfolio.

Kill Switch

If a Buy Side client is trading across multiple trading venues and ETS and a credit limit is breached, the kill switch is activated and will stop the client from executing more trades." This pre-trade service include multi-asset coverage constantly computes whether funds are available to initiate a trade.

Dodd Frank (DFA) regulation and updated CFTC rules a as a result of the "Flash Crash" May 6th 2010 and Knight Trading "incident" Aug 1st 2012 highlighting the systematic risks of algorithmic HFT, were the trigger for PB and EB with a view to limit it, and to create a verification of the credit worthiness of counterparties before a transaction has been implemented. This implementation of protective measures started at trading venue level in 2014 with the Nasdaq OMX Group introduction their

"kill switch" for its member firms that would cut off trading once a pre-set risk exposure level is breached.

For Broker Dealers and EB, an algo kill switch is embedded in its offering as oversight and monitoring of electronic trading tools. This includes software and hardware-based solutions that allows the dealer to stop strategies immediately and minimises losses resulting from technology errors by sending kill messages directly into Arista or Cisco switches,

Dealers can kill strategies manually or through automated means. A manual kill switch can be triggered through a desktop application, terminating single, multiple or all strategies. An automated version allows users to set kill parameters for single, multiple or all strategies based on risk parameters including principal value, order frequency, order size, average daily volume, position size, P&L and duplicate order checks. Orders and positions can also be tracked, and alert messages can be sent to halt trades at the order level, modify strategy behavior or notify the dealers compliance officers that dangerous trading is occurring.

Similarly, for the Buy Side traders in Asset Management firms for example, on the Low-touch trading EMS, a number of pre-trade features are now standard with Third Party Providers:
  - Multi-market, multi-asset DMA supervision tools with Real-time monitoring of trade execution with reliable system logs
  - Sophisticated pre-trade risk control
  - Manual override procedures like Cancel, Amend, Mass Cancel, kill switch

> Q2: *Are there other data elements that, while not necessary to all market participants, may be necessary for some market participants or business models? Please provide the reasons for your answer.*

We have detailed below in **Figure 3** the workflow of data (Listed Equity) and the other asset that is closely related when executing/transaction in UCITS or similar, from the Retail Clients to the TVs and RDPs.

ORS Platform Providers

Supplies a web interface and trades Order Routing System

Fund Administrator

Independent Fund Valuation using EoD Market Data (inc. FX Fixings and Benchmarks close)

Cash available using FX Fixings

Independent Fund Valuation using EoD Market Data (inc. FX Fixings and Benchmarks close)

Asset / Fund Manager

AM/FM handles the FA input in its Portfolio Management Systems (PMS)

AM/FM places trades direct on TV or indirect via Broker/Dealer (SI/Lit/ELP)

Trading Venues: MTF, RM, ATS, RMO, Exchange, etc...

Clients/Distributors

Cash Invested to buy units in investment funds using an Order Routing System via ORS Platform Provider

Transfer Agent

Cash Invested in the funds

Custodian

Cash to settle trades placed by the AM

Figure 3

IPUG members have found that two other types of factors impact the market participants and their business models when they require data, as listed below:

➢ **1 Timely aspect of data** *(more details in Question 6)*
 - "Real Time" data:
 -> In other words, do we need the Speed of light or Speed of information?
     * Broadcast / Push
     -> Continuous/streaming or sequential / one-off update
     * Request For Quotes (RFQ) / Pull
     -> Enquiry with indicative/executable answer "expected"
 - "Delayed" data:
 -> What is the standard for "Delay"?
     Examples: FX Platforms ~40 ms
         Exchanges / TVs ~15-30 mins
         RDPs / Aggregators up to 1 hour (APA/ARM/Trade Reporting)

Benchmark and Fixings: Delayed Data is up to 24 hours!!! (IBA / Libor)
- "Snapshot" data:
-> Technical call for data coming from a feed either Real Time or Delayed
- "Historical" / Seasonal data

➢ **2 State of Data –** *Three types are identified:*
- Raw data
    * "Native" exchange/TV or RDP/vendor format
- Normalized data
    * Cleansed / Consolidated / Symbology mapping / Taxonomy
- Enhanced data
    * Incremental set of information added / commingled / Manipulated / Derived

In order to have an even more accurate understanding, data type is split in three:
➢ **Three main categories of data types:**
- "Business data":
    * Information used in a transactional environment (application, communication)
- "Reference data":
    * Provided by the party generating the data, it is the set of identifiers enabling to identify each data components
- "Static data":
    * Explanatory values representing the "foundation" content created by data sources.

And ultimately, in order to have the ability to set a governance and have a mapping in the Enterprise Data Management EDM tools, a correspondence grid between data types and its components has been defined by industry associations and RDPs. These result in the following three groups:

➢ **Business data:**
- "Instrument/security data" Asset class, rating, classification, conversion details
- "Trading data" Price, Time & Sales, aggregated, market rules,
- "Corporate & Issuer data" LEI, industry classification (GICS/ICB), performance, corporate description
- "Relationship & constituents" Weightings, related securities & membership, related corporates (affiliates & subsidiaries)
- "Corporate & security ratings" Issuer, issue
- "Corporate Actions" Earnings, div, Ex-div, capital alterations, shares outstanding, organizational change
- "T&C's" Instrument recap description, sinking funds, structured products, redemption info, FRN, Muni,
- "Payment" Amount, schedule, cash-flow, accruals, cascade/waterfall
- "UCITS & Collectives investments" Management info, Risk & Performance data, holdings.

- "Clearing & Settlement" Agents, timeline, location,
- "Tax information" regime, collection periods, fiscal year

➢ **Reference data:**
  - "Instrument identifier" Unique symbols and foundation/primary keys for financial instrument
  - "Data source identifier" per generator, issuer
  - "Market" where instruments are quoted on one or more trading venues

➢ **Static data:**
  - "Global" lookup info
  - "Asset specific" lookup data

Q3: Please share your view on defining Core Market Data and how such a definition can be used (for example, for compliance purposes or as a mechanism to make routing decisions, etc.).
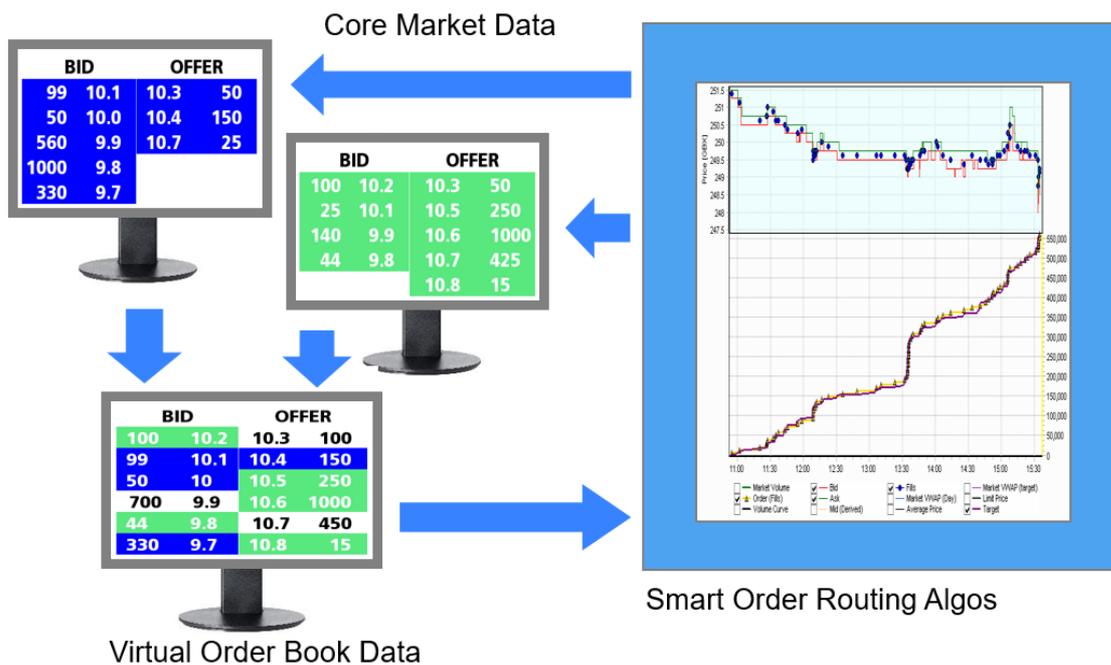

Figure 4

A good number of ill-informed peers, TVs (so they boast their IPR claims) and RDPs have *Figure 4* as their concept/picture of what Core Market Data is!
There is no one-size-fits-all definition of core market data for Listed Equity and how such definition can be used is a very wide topic. IPUG members use core market data from TVs for multiple asset classes including Listed Equity, fixed income, money market, FX, real estate, commodities, futures, options and other financial derivatives.

In Europe, IPUG members differentiate TVs (Regulated Market (RM), OTF, MTF) from

non-trading venues i.e. Electronic Liquidity Providers ELP and Systematic Internalisers SI.

IPUG members:

➢ Use core market data for Listed Equities in variety of latency (delay): real-time, delayed, end of day, after midnight, historical data. It debated over in many of the questions in this document.

➢ Consume streaming data, conflated, snapshot data, RFQ - (Indicative executable) and per quote data.

➢ For those members who are Participants on TVs (Regulated Market, OTF, MTF) access the quotes via gateways/APIs in order to take advantage of the lowest latency offered.

➢ Access both Level 1 (Top Of The Book) and Level 2 (Depth Of The Book) data from TVs.

➢ Mostly use core market data for Listed Equities received to execute client business, to fulfil client requests, to manage risk, to report to clients, or for some IPUG members execute proprietary business:
  • Best Execution: to fulfil the obligation to provide Best Execution
  • Analytics: Transaction cost analysis (TCA), Market impact
  • Modelling of trading strategies, trading algorithmic trading applications and Direct Electronic Access (DEA)
  • Static EOD files referenced by various internal applications held for regulatory purposes where required.
  • Elements of real-time, delayed and EOD data displayed on some IPUG members websites.

Note: The depth of accessible data on TVs depends on your role: Market Maker, Liquidity Provider (Price Maker), Price Taker.
It also significantly depends on your implemented Listed Equity market data distribution infrastructure as detailed in **Figure 5** below.
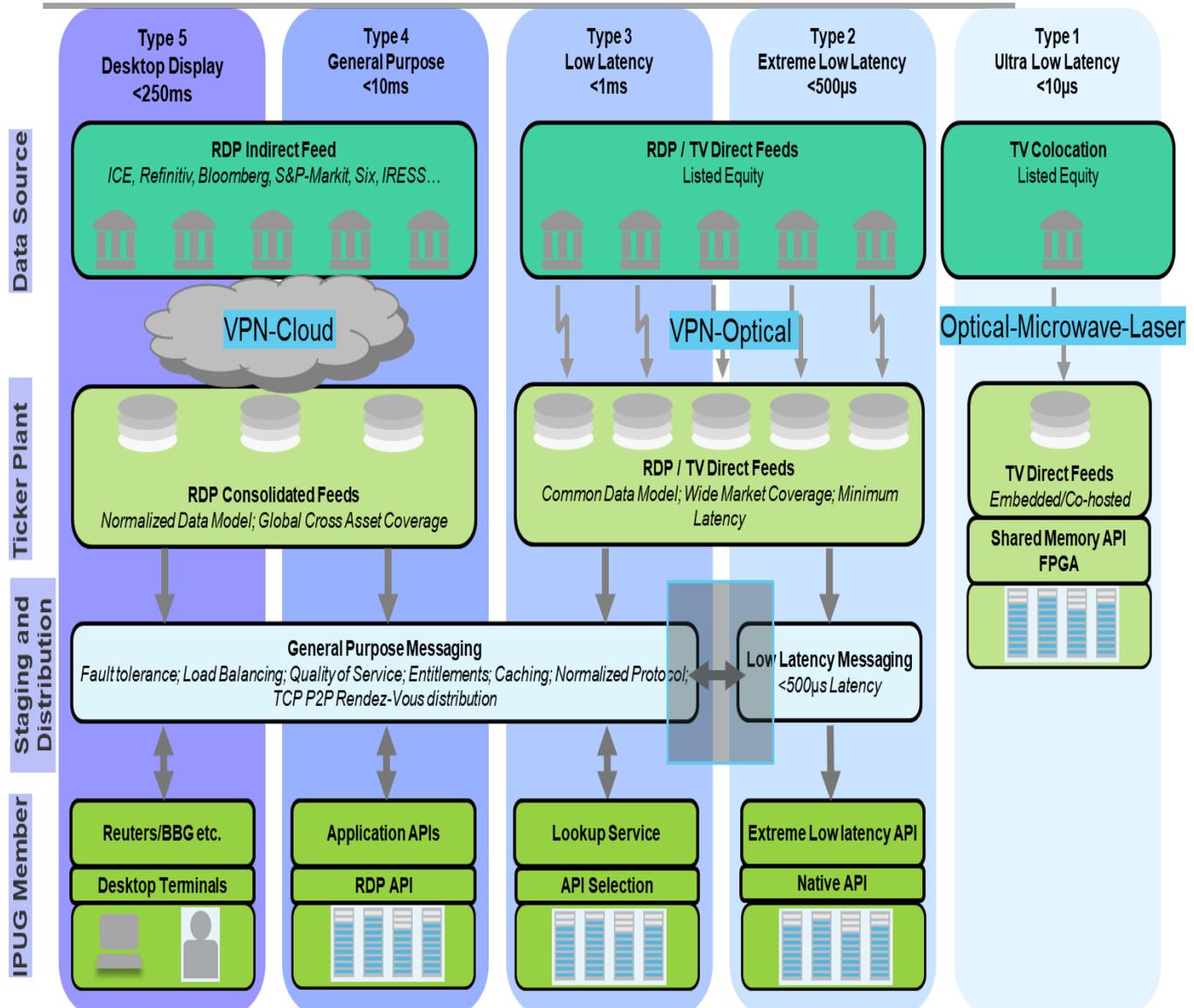
Figure 5

> **Q4:** *How is market data used by different types of investors or different functions of your firm? Consider, for example:*
> *• Type of investor (e.g. retail or institutional)*
> *• Trading Desks (proprietary or client-servicing including retail and institutional), Institutional, proprietary)*
> *• Compliance*
> *• Risk-Management*
> *• Back office functions*

IPUG members have to identify the optimal sources based on their Functional Requirements and Desk Profile.

The five pillars of each IPUG Members are easily identifiable with the type Core Market Data in its different status and shape flows in the different functions.

*Figure 6* below details a typical example of set up in a Sell Side / Investment Bank.
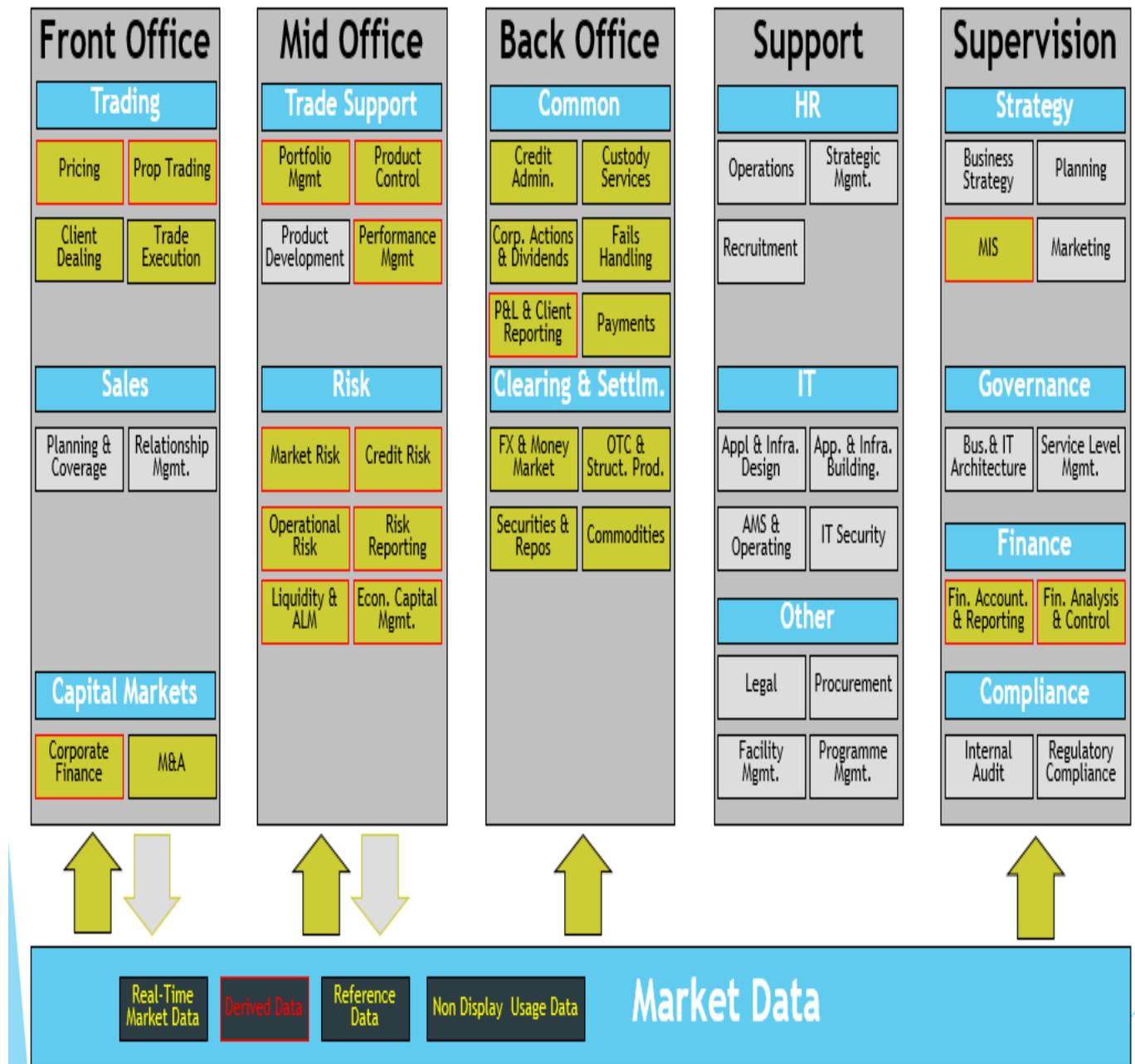
Figure 6

> **Q5:** *What impact does different uses have on the need to access data? How can these impacts be managed or addressed?*

For the purpose of this IOSCO Consultation, we will answer following two steps:
Q5a: Using the IPUG template detailed in **Figure 5** above, we are going to map the different uses linked to the need to access the data

A significant factor IPUG Members are sensitive to, is the Listed Equity data latency and its application depending on the consumer profile (Risk management, Back Office, Trading Desks, Hedge Funds, etc…) The description from the highest **Type 5**, to the lowest latency **Type 1** allows for the required usage based on the Functional Requirement.

Figure 7

Q5b We will now review how these impacts can be managed or addressed as the next subsequent downstream step is when Data Management and Aggregation become the main requirement.

IPUG Members have identified that the key impacts on the need to access data are:

➢ IPUG Members have identified that the key impacts on the need to access data are:
- Latency/ Efficiency: The "Need for Speed" Scalability
- Capacity of the network
- Monitoring of transaction performance and data distribution
- Multiple Data Sources to manage
- Compatibility with legacy systems
- Entitlements and Access management to remain compliant with TVs and RDPs Data Policy and Price Policy
- Resiliency / Failover – this is business critical and a regulatory point for Best Execution
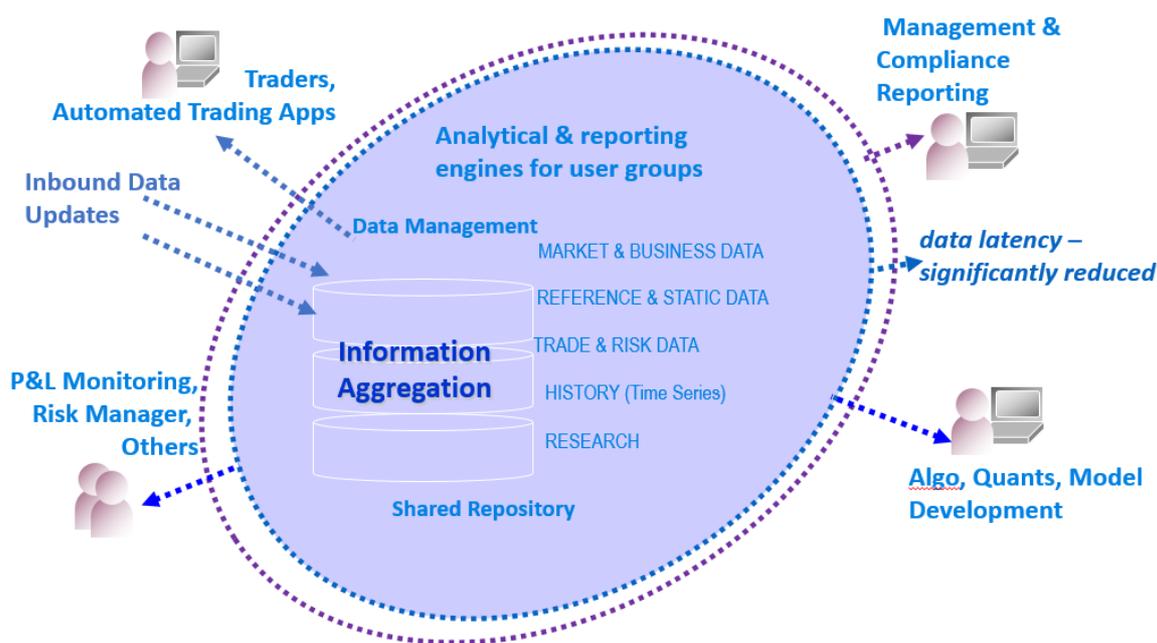
Figure 8

➢ The **inner circle** is the data movement that is going on right on to present data to the consumers of core market data. The latency in the inner circles magnifies the latency in the outer circle. This will clearly highlight the virtue of data consolidation and the possibility of Listed equity interchangeability/displacement as mentioned in Question 10 below.

➢ The **outer circle** is the information aggregation that supports the decision makers

IPUG Members consider that core market data and especially Listed Equity is a "must have" for our business purpose.

Core market data from TVs or RDPs (very often Approved Publication Arrangements APAs is a "must have" because IPUG members need to provide the client the most favourable terms for their order execution with reference to:

- Price
- Speed
- Likelihood of execution
- Settlement Size
- Settlement Price
- Settlement Nature
- Any other relevant considerations

To fulfil any client request, it is necessary to receive the relevant market data. For client orders, there is an obligation under MIFID II to achieve Best Execution. In order to achieve it, it is necessary for a firm to receive core market data from all relevant trading venues.

IPUG Members need to comply with the Best Execution obligations, as defined by Regulatory Technical Standards (RTS), in particular RTS 27.

IPUG Members therefore need take the following 3 steps to comply with **Best Execution requirements.**

1- Publish RTS 27 reports and/or RTS28 reports on APA website
2- Create and publish an execution policy on the execution factors defined in RTS 27
3- Put in place an oversight process to monitor the implementation of the Firm's execution policy

Core market data from TVs is a "must have" for establishing a liquidity threshold in the relevant financial instrument. The need to recreate virtual order book - see **Figure 4** above- for each instrument is triggered by the multiplicity of TVs, this justifies why TVs data, as well as APA post trade information is required for IPUG members which are Systematic Internalisers (SIs).

IPUG members who undertake SIs activities noticed significant cost increases in this category post implementation of MIFID II. Further analysis can be found in the **Figure 9** below.

IPUG members who are SIs now are facing new data licensing demands from Regulated Markets.

Warsaw Stock Exchange

Quantitative evidence for this can been seen in the steep increase of Warsaw Stock Exchange Non-Display fees from 2017 to 2019, with the most significant cost increase was for Systematic Internalisers and MTFs, as seen in the table below.

Date	Product	Fees Annual PLN
2017	Use of Information in Automated Trading Applications	60,000
2017	Use of Information in Other Non-display use applications	20,000
Jan-18-June -18	Use of Information in Automated Trading Applications	65,000
Jan-18-June -18	Use of Information in Other Non-display use applications	25,000
Jan-18-June -18	Use of Information in Automated Trading Applications and Use of Information in Other Non-display use applications	80,000
July-18-Dec-18	Use of Information in Automated Trading Applications	65,000
July-18-Dec-18	Use of Information in Other Non-display use applications	25,000
July-18-Dec-18	Use of Information in Automated Trading Applications and Use of Information in Other Non-display use applications	80,000
July-18-Dec-18	Use of Information for the purpose of operating trading platform including but not restricted to MTF	1,150,000
July-18-Dec-18	Use of Information for the purpose of systematic internalization (Operating SI)	560,000
2019	Use of Information in Automated Trading Applications	65,000
2019	Use of Information in Other Non-display use applications	25,000
2019	Use of Information in Automated Trading Applications and Use of Information in Other Non-display use applications	80,000
2019	Use of information in Automated Trading applications to generate prices to make markets and provide liquidity outside of the Stock Exchange	400,000
2019	Use of Information for the purpose of operating trading platform including but not restricted to MTF	1,150,000
2019	Use of Information for the purpose of systematic internalization (Operating SI)	560,000

Figure 9

Euronext

IPUG Members compared Euronext Cost for Systematic Internalisers using publicly available information – as it is Real Time - from the Euronext website: https://connect2.euronext.com/data/market-data-agreements using price lists from September 2017, January 2018 and July 2020.

Systematic Internaliser activities fall under Category 3 non-display use fees: Trading Platform. The change in price and percentage changes are displayed in **Figure 10** below.

Euronext Information Products (Non-display Category 3)	Sep-17 EUR per month	Jan-18 EUR per month	Jul-20 EUR per month	% Increase from Sep 17 to Jul -20	% Increase from Jan 18- Jul 20
Euronext All Indices Enterprise	330	375	558	69	49
Euronext Cash (Consolidated Pack) Enterprise L2	2760	3225	4042	46	25
Euronext Equity and Index Derivatives	0	1500	1791		19
Euronext Commodity Derivatives	0	575	686		19

Figure 10

IPUG members would like to emphasise that the use of the core market data has not changed over this period.

BME Spain

Bolsas y Mercados Españoles (BME) Stock Exchange has the following fee structure for the use of the Listed Equity core market data in Systematic Internalisers: https://www.bmemarketdata.es/docs/docsSubidos/Documentacion/Contractual/ANNEX_4_-_FEES_IN_FORCE.pdf

The enterprise option offered by BME is an annual fee of EUR 76,000 per annum per Market Identifier (MIC). This negatively impacts companies operating more than one MIC (global institutions, operating in the UK and European Union), as they often have more than one MIC code register to ensure that they can continue to service European investors post Brexit.

Instrument identifiers

A number of IPUG Members highlighted a particularly problematic area of core market data licensing which is instrument identification. Specifically, the LSEG SEDOL codes and Standard & Poors' CUSIPs.

➢ LSEG SEDOLS are widely included in Real Time Listed Equity core market data functions in the financial institutions as shown on **Figure 6**.
➢ The use of CUSIP identifiers is unavoidable for some IPUG members, due to their inclusion within the ISIN code of North American Instrument

Both instrument identifiers TV and RDP above mentioned:
➢ Carry the request to complete a Data Usage Declaration on top of the contractual pack of documents
➢ Trigger downstream reporting for all TVs, RDPs, and anyone involved in their usage
➢ Have been able to pressure the existing user base to execute "updated" licensing since MiFID I. *Not too far away from Listed Equity,* FTSE Benchmark data files are the preferred method of instrument identification for some clients.
➢ Differentiate themselves on a regular basis due to significant costs associated with little apparent value added over alternative unlicensed instrument identifiers.

Access to Market Data

Q6: What factors should be considered in the context of evaluating "fair, equitable and timely access"? How should these factors be considered?

In order to reply in a structured manner, we need to detail as you will see below the type of relationship that governs the relationship between TVs and RDPs and Clients/Customers. One can not dwell into the context of evaluating "fair, equitable and timely access" without defining under which legal umbrella both parties are.

IPUG has for years aimed to **share knowledge** (**how convenient, as this is our motto!**) and supplied some basis of structure in the quagmire of contractual terms IPUG Members face from each and every TVs and RDPs.

The first point to note is the absence of any, and we mean **any type** of consistency in the terminology used by all TVs and RDPs. As we will explain further down in this IOSCO Consultation Response document, differentiation is key to revenue increase for all TVs and RDPs.

Q6a: Documentation framework explanation: High level structure

This part will cover the definition of Master Agreements -IPUG terminology is Data Policy DP-, as well as Addendum/Schedule (also called Service Agreement/Statement Of Work documents -IPUG terminology is Price Policy PP as it is service, timeline and cost specific-.

Master Agreement (see **Figure 11** below) contains the TVs and RDPs standard terms and conditions and is service/product neutral. It governs -in other words, it is the legal reference of terms used in all subsequent documents of the TVs and RDPs -.

Data Addendum sets out the license terms for all outbound data Services

Contribution Addendum details the inbound data license and contains the legal boilerplate governing client data contribution.

Note: This is a growing part of RDPs business where they aim to collect specific data points and analytics of Listed Equities that TVs do not have the ability to issue during the open or closed trading periods mainly due to the liquidity fragmentation between TVs, Sell Side Dealers and Buy Side Portfolio Managers.

Note: Under some jurisdiction, the *contribution of data is regulated,* and the most obvious example is the implementation of the Benchmark regulation since January 1st, 2018

Issuance and Trademark Addendum lists the tradeable and execution related activities granted by such a Financial Product license. Most of these contracts fall under a regulated framework in almost of jurisdiction since the aim is related to delivering a financial product for a client.

Note: This often encompasses Pre, At and Post Trade services related to this specific stream of rights contains in these licenses
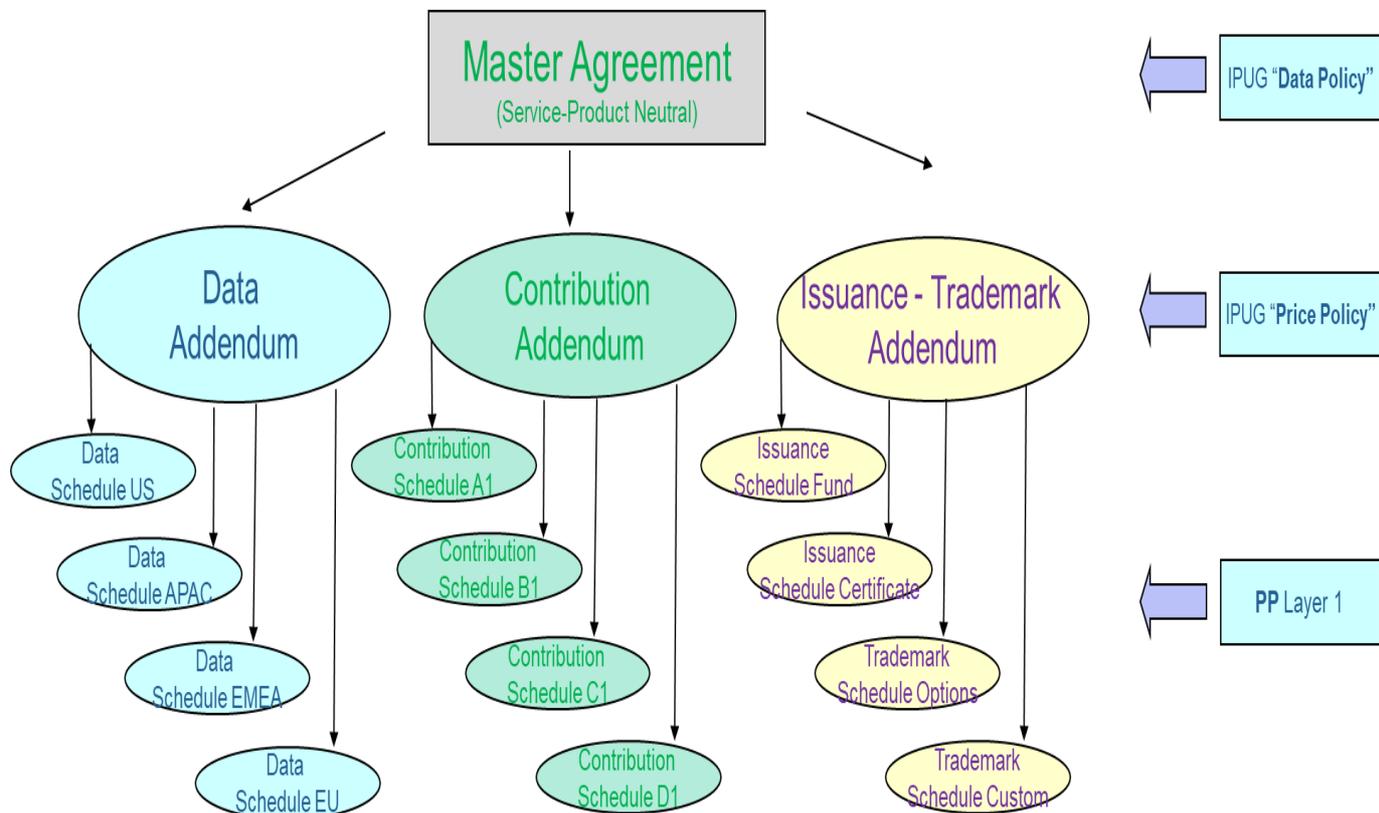

Figure 11

As technology, data usage, client's requests and regulations have evolved, TVs and RDPs have grown their portfolio of "Addendum" (**Price Policy PP**). This mainstream of activities now covers:

- Custodian
- Fund Administration
- Third Party Services Providers
- Developer Licensing
- Outsourcing (Data / Non-Data)
- Calculation Agent
- Media
- Education
- Cost Free (but not Intellectual Property Rights IPR free…)
- Other

Note: The **"Other"** worded addendum is the "El Gordo Christmas Lottery Ticket" of all TVs and RDPs. *It covers anything* they have been introduced to or that they are "defining" as Use Case *not yet covered by the existing contractual framework*. IOSCO can easily see the excesses this engenders on TVs and RDPs community since they

have the last word every time a request is raised by a misinformed and confused client due to the complexity of the contractual framework as we will demonstrate further down in this document.
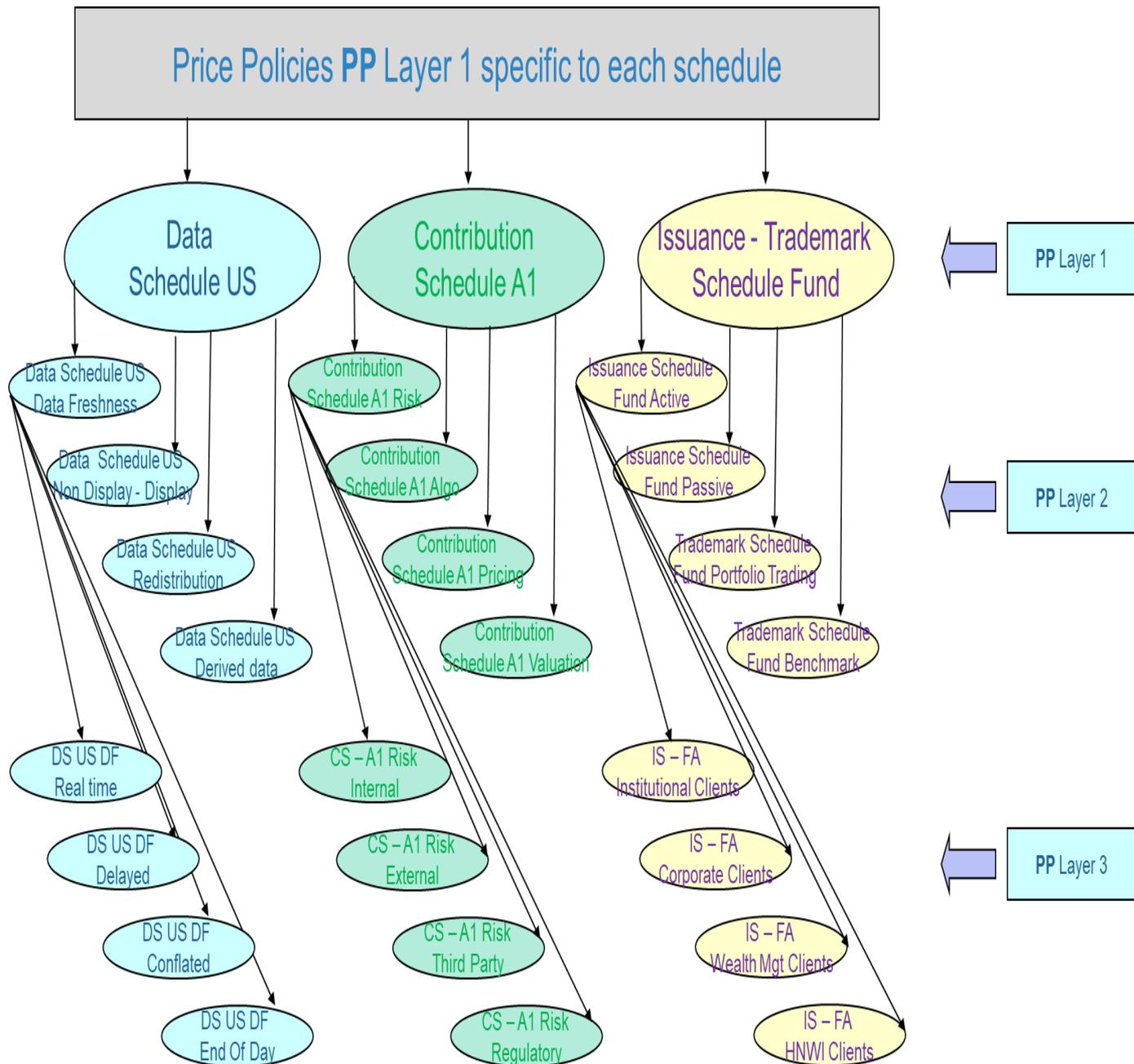

Figure 12

Moving further in the TVs and RDPs Addendum (**Price Policy PP**) licensing universe, the clients now face a first layer of "Schedules" opening the door to a maze of incremental documents to review/execute, and pay for…

Note: The commercial brochures and marketing do not reflect the licensing covering the product/services advertised, that would be too easy. TVs/RDPs purposely

structure the communication aimed at the "Users" – typically Front, Middle, Back Office, Support and Supervision functions as described in the previous questions.

Data Schedule: This document sets out the specific data content under the Data Addendum. It is dwelling a number of families, activities, locations, use cases, divisions, functions, freshness, regulations, etc… and this follows a *"fishbone* type" documents structure.

Contribution Schedule: The specific service/data content provisions included in the contribution are defined in this document. Clients can usually see specifics like:
➢ Instrument taxonomy / granularity / frequency / symbology,
➢ Data quality, volume, format,
➢ Variety of unique commercials clauses:
  • give-get type,
  • level of discount on uniquely identified Data Schedule,
  • rebate on list price,
  • revenue sharing,
  • number free Anywhere/Limited Functionality/Premium terminal for the term of the Contribution Schedule,
➢ Trading/volume demonstrated reduction in competitor's execution platforms,
➢ Minimum number of onboarded clients or execution brokerage floor required to obtain free market data

Issuance Schedule: This family of documents encompasses terms aimed at the creation and trading of OTC products. There are specifics to this kind of dual side licensing family as some RDPs (may they be branches/affiliates of TVs or not), are not consistent in this type of licensing:
➢ Any kind of Structured Products, Fund, Options, Special Purpose Vehicles SPV, Derivatives, Synthetic Benchmarks, Bespoke Indices and ETFs creation by Asset Managers or Dealers requires separate licenses under this type of schedule.
  • One can easily deduct that this allows for a "permanently open tap" of Issuance Schedules as the licensing will be mapped to any product issued by the Sell or Buy Side.
➢ We must stress "mainly OTC" as execution on TVs is often regulated and an incremental OTC license does not apply, even if RDP's are trying to double dip on a regular basis on fixed income instruments, not so much on Listed Equities instruments.
➢ Usage of the above detailed instruments on Clearing Counterparties CPP, CSD and clearinghouses for the licensee or the licensee's clients is also requiring multiple Issuance Schedules per CCP, per Jurisdiction, Per type of classification of Listed Equities, etc… The growth is unrelenting as every new scenario like Post Trade Risk Reduction, Portfolio Compression, etc… is translated from an "Other" Issuance Schedule to a more precise terminology in the short erm after any kind of engagement with the sales representatives of the TVs and RDPs.
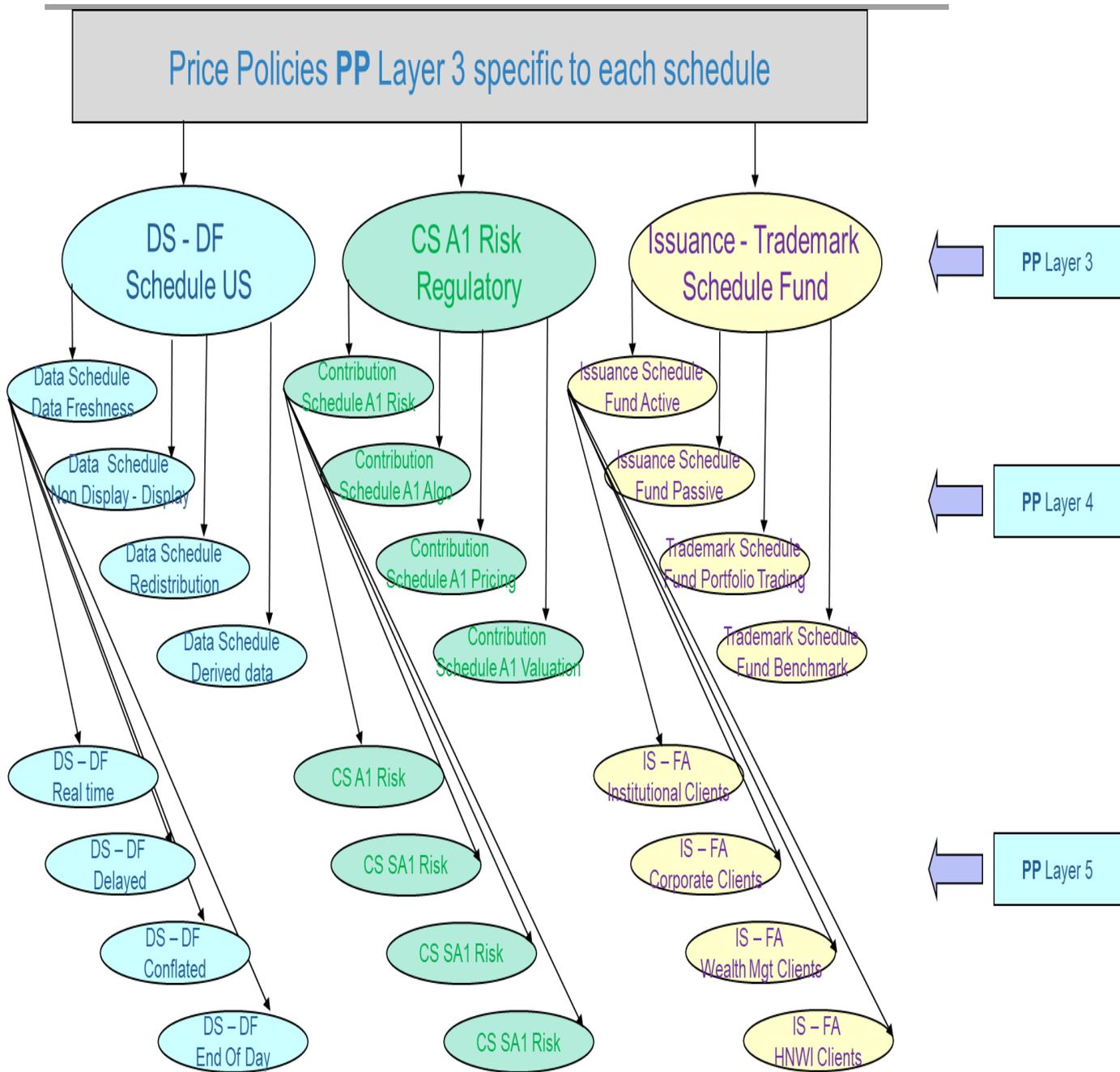
Figure 13

Note: The definition around Market Making is often added in some Issuance Schedule product families and coupled to the one where "Two-way prices are quoted" by Sell Side dealers in their capacity as broker/dealer. This triggers the need for incremental licensing in case of differing usage, typically these Issuance Schedules are not to be used for licensee's clients when licensee is acting on the clients' behalf (Prime Services, FCMS).

Note: RDPs also do not hesitate to request the clients to "make sure" the TVs is "properly" licensed with the RDPs for the specific use case discussed with the RDP. This is defined below in the details of the disclaimers forced upon the client by the RDPs. For dealers wishing to license different use cases where the Benchmark and Fixings products copyrighted by the RDP, not limited to single dealer electronic platforms, incremental licensing will ensue.

Note: Numerous TVs and RDPs use the renewal period to update terms of their legacy to their advantage. The usual example is an update to the Redistribution clause where the legacy Data Schedule included a certain right to distribute data to the Licensee's clients. As phrased by the licensor -TV or RDP alike – *"In keeping with common market practice and licensor's licensing practices, this was narrowed down to only ad hoc non-systemic and with prior written approval distribution"* No one is left in doubt that a "Other" license tends to be sent following the "prior written approval" compliance step by the licensee…

Note: Whereas the simple and basic above **Figure 11, 12 and 13** example for three Addendum (Data Contribution, Issuance – Trademark) only followed by a sample of five downstream layers of incremental licensing, **IOSCO** should be under no illusion that it is not uncommon to reach nine to eleven layers (**PP** Layer 11) of Schedule licensing in the TVs and RDPs quest to always add incremental licensing on existing activities. Numerous IPUG peers have reported that just on the Data Addendum licensing stream their Benchmark/Fixings inventory – Index Licensing manager ILM, the inventory tool used by the Tier 1 Asset Managers– has often more than 70 documented licensable entries for some RDPs for Listed Equities. This is especially true with the major Benchmark/Fixings providers like MSCI, LSEG/FTSE Russell and DBAG/DAX-STOXX.

Note: For **Benchmarks/Fixings on Listed Equities** and their Addendum and subsequent Schedules, **there is no price list available to any client in a public manner**.

Note: The **absence of any public commercial data or rate card for Benchmarks/Fixings** nurtures any discussion between the RDPs and the clients as it is bilateral to maintain the Value Based pricing model TVs and RDPs are advocating as it does not take into account any cost of production but purely a "squeeze until they squeal" commercial policy.

Q6a: Documentation framework explanation: Detailed documents structure

As introduced above, the basic of all relationship between TVs, RDPs and users is a **contract** and its core structure is composed of:

➢ Master Agreement – called **Data Policy** – and it contains:
  • Boiler Plate (basic) terms like Liability, Indemnity, Term, Service, Cancellation, etc…
  • No end terms

- Specific Audit clauses
- No specific product or service definition

➢ Addendum / Schedule / Order Form / Exhibits – called **Price Policy** –containing
  - Specific service description
  - TVs/RDPs clients and supplier contacts
  - Commercial components
  - Usage scope and limitations (numerous and very complex)
  - Reporting requirements:
    - o A swelling number of TVs impose fines/financial penalties in thousands of £€$ for missed/late reporting cycles placed on the client's market data administration personnel. The administrative activities have become an incremental source of revenue for Trading Venues.
  - Time defined/bound document:
    - o Initial Term duration:
      - For Data, Contribution and Issuance – Trademark types of services the initial term goes from 12 to 36 months
      - For Execution, At/Post Trade Services there is an initial 30 days service and most Addendum / Schedules are "evergreen" (no end date)
    - o Renewal Term duration:
      - These are usually 12 to 24 months but recently RDPs have no hesitation to coerce licensees into 60 to 72 months renewal terms with the recurring threat of service removal if the documentation is not signed with their new terms (commercial & contractual).
    - o Cancellation notice parameters:
      - Typical contracts require a written notice to be sent to the TVs and RDPs at least 30 to 90 days prior to the last day of the initial/renewal term. Failure to do so will auto-renew the legacy Addendum/Schedule for the renewal term detailed in the executed documentation.
      - Abusive clauses of 180 days cancellation notice period also exist with specific dominant suppliers.
      - For Execution, Pre-At-Post trade Services there often is an initial 30 days service that is cancellable at any time with 30 days prior written notice

Other **Non-Contractual** documents are also *"made available"* to licensees by TVs and RDPs:
- Market Data Policy: Sets of documents explaining in each eTrading Venues / RDP 's terms Unit of Count (UoC), Reporting,
- Public Guidance designed for the client's "better understanding" of the Unit of Count
- Data Usage Declaration DUD / Usage Of Service Statement UOSS

<u>Note:</u> IPUG Members do want to highlight a new cause for growing concern among consumers due to the **Usage Of Service Statements UOSS / Data Usage Declarations DUD** (aka other statements, declarations and questionnaires) coercive pressure from TVs and RDPs, and we are not talking of the massive incremental administrative burden here!

Concerns from IPUG Members are many and can be summarized as:

➢ Consumers are frequently locked into services/products from TVs and RDPs, without practical alternative or ability to displace the incumbent source, and under increasing pressure from changing policies, snowballing fees and refinements, application and enforcement of increasingly detailed licensing models.

➢ Open questions from the TVs and RDPs across all aspects of service provision and licensing are not considered to be constructive or building on the prior relationship but essentially seen as <u>*intelligence gathering by the TVs and RDPs to develop and enforce complex licensing models*</u>. IPUG Member feel it is the exception for RDPs to build upon, provide or even refer to previously established facts, concerning specific licensing arrangements.

➢ It is a growing strongarm practice from TVs and RDPs which is onerous in time and effort for IPUG Members to establish fine detail information across large and complex business areas to suit these core market data sources revenue quest and the, frequently unique or nuanced, complex portfolio of licensing models. This burden is magnified for the consumer across many (potentially 100 or more) core market data TVs and RDPs.

➢ Questions over the legal standing of contractual clauses demanding declarations and audits where this is <u>*open to abuse to seek non-public, commercially sensitive and even anti-competitive information.*</u>

➢ Reasonable Commercial Basis RCB – Consumers have long questioned the scale of the costs for simple but monopolistic data services and also the complexity of the licensing models, the time and effort demanded for servicing TVs and RDPs information demands through declarations and audits is another hidden but not insignificant cost to the consumer.

➢ Segregation of information at the TVs and RDPs: they are making minimal, if any, commitment to separate consumer provided information through declarations and audits from sales and income generating functions *(aka Revenue Protection Department or Licensing Oversight Department).* There is widespread concern these activities could or are driving ever more complex Data Policies and Price Policies to maximize licensing revenue from multiple aspects without any incremental data input being delivered.

➢ Often due to the expert knowledge required to understand the terms of usage of data, and without suggestion of deliberate deceit by consumers, suggesting errors are unintentional and probably the result of poor information/understanding, nevertheless the impact for IPUG Members is significant. Meanwhile TVs and RDPs are robust at enforcing back billing and substantial commercial penalty without need to account for themselves or care for the local tax laws in place.

Note: It is not uncommon for a TV to audit and charge for 5 to 6 years "in the past" in case of client "under licensing", but the maximum of refund on "over licensing" is 3 months! Now, TVs even have the guts to "orally only" advertise a possible refund that would be extended to 24 or 36 months once the DUD/UOSS has been completed as if a stick and carrot is the way clients/subscribers should be treated.

Note: In some European countries it is law to refund consumers for the length of the contract term which is a minimum of 12 months due to renewal terms implemented by many TVs. In this case TVs sales representatives plead ignorance and require the client to demonstrate such laws and their applicability to unregulated Information Services from the TVs and RDPs. Final decision is left to the TVs in their appreciation if their practice is compliant with the domestic tax laws as stated in the agreements executed by the clients/subscribers.

➢ Commercial terms are weighted unilaterally in favour of the TVs and RDPs as shown earlier in this report, and in their coverage of the core market data for Listed Equities display the following characteristics:
  • A bias to establishing and collecting "under licensing" payments,
  • Poor communication and education on licensing terms and restrictions,
  • Lack of transparency and accountability on information gathering and outcomes by TVs and RDPs,
  • Minimal and almost non-existent effort by the TVs and RDPs to address weaker areas that expose the consumer to Execution risk and the downstream inability to fulfil the obligation to provide Best Execution.

IPUG Members want to highlight how a number of factors are to be considered in the context of evaluating "fair, equitable and timely access" to data, not so much on what we would like but on how it really appears in the documentation (Master Agreement, Addendum, Schedule) supplied by TVs and RDPs is. This is necessary before we develop the second part of question 6 which is how it could be set as.

Q6b: Documentation content explanation: Contractual Terminology examples

To this effect we will details 3 very relevant contractually defined points:

Q6b1 Derived Data

➔ Even if you modify it, you still pay have to pay a fee!

Q6b2 Intellectual Property Rights

➔ Who actually owns the data or "whose baby is it"?

Q6b3 Termination of Access

➔ Effects based on "reasonable usage" or on notice by client

We could delve on many more relevant contractual terminologies like, Audits, Liability, Indemnity or Redistribution but for the satisfaction of this first IOSCO Consultation on Listed Equities, we will only develop the small subset of three items above listed.

In the first case, the argument that those practices are based on written agreements is not very convincing because data users "de facto" have no choice and almost certainly would not agree to such provisions if there would a more competitive market structure.

In the second case, the point is that TVs have no intellectual property rights for the data they sell, simply because they did not produce but record it. The "producers" are market participants on the Buy- and Sell-Side who agree on a trade (price, volume, etc., often based on complex intellectual assessment of the assumed economic value of a certain financial instrument.

In our simplistic, but nevertheless structurally applicable comparison, TVs behave like concert hall operators who rent out infrastructure (the concert halt, sound- and light technology etc.) to musicians, record/bootleg the musical performance and then sell it for their own profit bypassing the originator.

Q6b1 Derived Data

Common usage access of data:

- **Created in 2007 by Deutsche Boerse (DBAG) !**
- **Non-Display Usage NDU:**

  - Data, which is not viewed, but used in applications
  - Typical categories of NDU defined in Reuters Business Principles grew from 4 (2008) to 10 (2011)

- **Display**

    - Data which is on a screen for individual users to read

Common licenses used for data:

- **Raw data**–data from vendor, unchanged
- **Real time data / conflated data / delayed data**–the latter is usually cheaper
- **Manipulated data** – data amended slightly and can be reverse engineered
- **Derived data** - data has been processed / combined so that original input data cannot practicably be recreated, or reverse engineered

Details on Derived Data:

- Derived Data, is referred to as **"Original Created Works" or "New Original Works,"** *(see IPR figures/definitions below)*
- It is generally defined (see Reuters Business Principles) **as new works that are created from proprietary data that cannot either be readily reverse-engineered or used to create new data that is substantially similar to the proprietary data**.
- Derived data is also defined along the following lines: "data that has been modified by Customer to such a degree that the original data cannot be recognized, or traced back or readily reverse engineered"
- Broad definition of Derived Data was created to address concerns associated with allowing unfettered modifications to market data and the creation of new products which may be used internally or by third parties without the ability to monetize the associated Intellectual Property Right (IPR).
- Many factors may feed into user data –multiple data sources (not just the TVs or RDPs), the trader's own view and positions, and the weighting given to these factors
- Many users will create Derived Data – settlement prices, risk management, profit/loss calculation, portfolio valuation, quantitative analysis, fund administration, net asset value NAV calculation, portfolio management, indicative pricing, pricing of a Certificate, Warrant, Option, or similar security…
- While RDPs could enact a blanket ban on any Derived Data creation to protect their interests, most understand the needs of the industry and instead develop sophisticated licensing policies to maximize revenue in such an inelastic domain.
- This licensing expansion include limiting Derived Data to Non-Display data only, requiring multiple separate Derived Data licenses, charging additional fees of all sorts, and restricting who may receive the Derived Data created without another license.
- Ultimate aim for TVs and RDPs *(also called Third Parties)* is:
    - Establish and expand their understanding of "Derived Data" creation
    - Improve protection of their financial interests
    - Ensure that their policies better reflect how financial firms manipulate market data to maximize revenue

- Maximize the difficulty associated with understanding the requirements and the restrictions of Derived Data creation
- Keep all agreements open to incremental licensing

Important:

As mentioned earlier, there are **no industry standards** on how policies can be created and organized, so every TV and RDP has its own nuances as to how they maximize their business of Derived Data licensing.

- Some definitions include additional restrictions and specifications, such as not displaying or incorporating raw proprietary data.
- TVs and RDPs also often reserve the sole right to determine which products fall within the meaning of Derived Data creation.
- A number of TV's and RDP's even add to the definition of Derived Data: "means any output of any Application… cannot be reverse-engineered…. and **cannot be used to create other data that is determined by "TV" to be a reasonable facsimile for the Information.** So, the activity performed with the data by the licensee is 100% left to the appreciation of TVs and RDPs…
- Main concern for TVs and RDPs is balancing their interest in protecting their IPR in the core market data they license, with the conflicting interest of clients (Financial Institutions) in manipulating data to create their own analytical figures and financial products in an industry where they are in constant competition.
- **"Data is the new oil"** and is no longer considered an afterthought, more resources are needed to monitor and manage its distribution. TVs and RDPs are cautious about ensuring that the **"commercial value of their data is fully captured"**.
- TVs and RDPs aim to protect their proprietary data from being used to create a product that would serve as a substitute for their proprietary data, which would diminish the market value of the data they sell.
- Another issue for consumers, which results from the industry's competitive nature, is charging a license fee that will reflect the demand for their data – **Value Based Pricing** - in opposition to the real "cost of creation" as required by ESMA

Note: Although the TVs and RDPs Data and Price Policies contain specific examples of Derived Data, they also provide greater leeway for them to determine which products fall under the definition of Derived Data and whether any **additional fees can be charged for created products by exclusively reserving the right to determine whether something is considered Derived Data.** Not surprisingly, this causes uncertainty for firms and opens the door to unexpected fees and penalties during Compliance Reviews and Audits. As mentioned so often by IPUG Members: **"Easy part of each audit is the science of data collection, interpretation is the hard part."**

So IPUG Members see no effort made by ESMA or FCA in implementing the notion Reasonable Cost Basis RCB, they only see efforts made by TVs and RDPs to circumvent it!

- Over time Most TVs and RDPs have implemented policies that go one step further than the _standard Derived Data policies that allow for the creation of all types of Derived Data_. Instead, they have implemented policies with multiple categories of Derived Data creation that provide greater clarity as to which types of financial products fall under their policies, but which ultimately are separately fee liable.

- Examples of defined categories:

  - **Indices, Benchmarks, and Underlying Strategic Product Creation**: Category for the right to process, develop, create, or otherwise calculate an index and/or the Underlying Strategic Financial Product linked to the index. Some TVs distinguish between internal index creation and creation for an external third party by creating two separate categories with different fee structures where some TVs consider internal creation of indices as being fee liable while others do not.
  - **Exchange-Traded Products**: Category for the right to use data in the calculation of indicative optimized portfolio values, net asset values, or similar products. Typically, this category would fall under the previous one, but may be required to be separately licensed where the product is not linked to an underlying index, or if the index is not owned by the financial firm creating the Derived Data.
  - **Certificates and Warrants**: Category for the right to process, create, or otherwise settle certificates, warrants, and other similar structured financial products
  - **Spot, indicative, or amalgamated price and value**: Category for the right to process, create, or otherwise calculate prices or values.
  - **Contracts for Difference (CFD)**: Category for the right to process, create, or calculate prices or values for CFD's, spread bets, binary options, and other products that offer similar leveraged exposure.
  - **"Other"**: As mentioned already in Question 6 ==Figure 11==, this Schedule entitles TVs and RDPs to license the right to create any financial product not expressly listed under the "**Other**" category. This is a catch-all category for all the products that fall under the broad definition of Derived Data and for any new types of Derived Data products that may be created in the future.

As defined in the previous question, the higher the granularity, the easier the ability to generate incremental licensing for TV's & RDP's!

Q6b2 Intellectual Property Rights

The is a double system for the basic principles of Market Data legal protection.
It is split in two parts:
- **Specific Databases Regulation**
- **Copyright Protection**

Its working is detailed in <mark>Figure 14</mark> below

Three rules to bear in mind:
1- *Protected element: Database Structure / Database Content*
2- *Criterion for protection: Originality / Investment*
3- *Beneficiary of the IP rights: Creator of database / Investor-Producer*
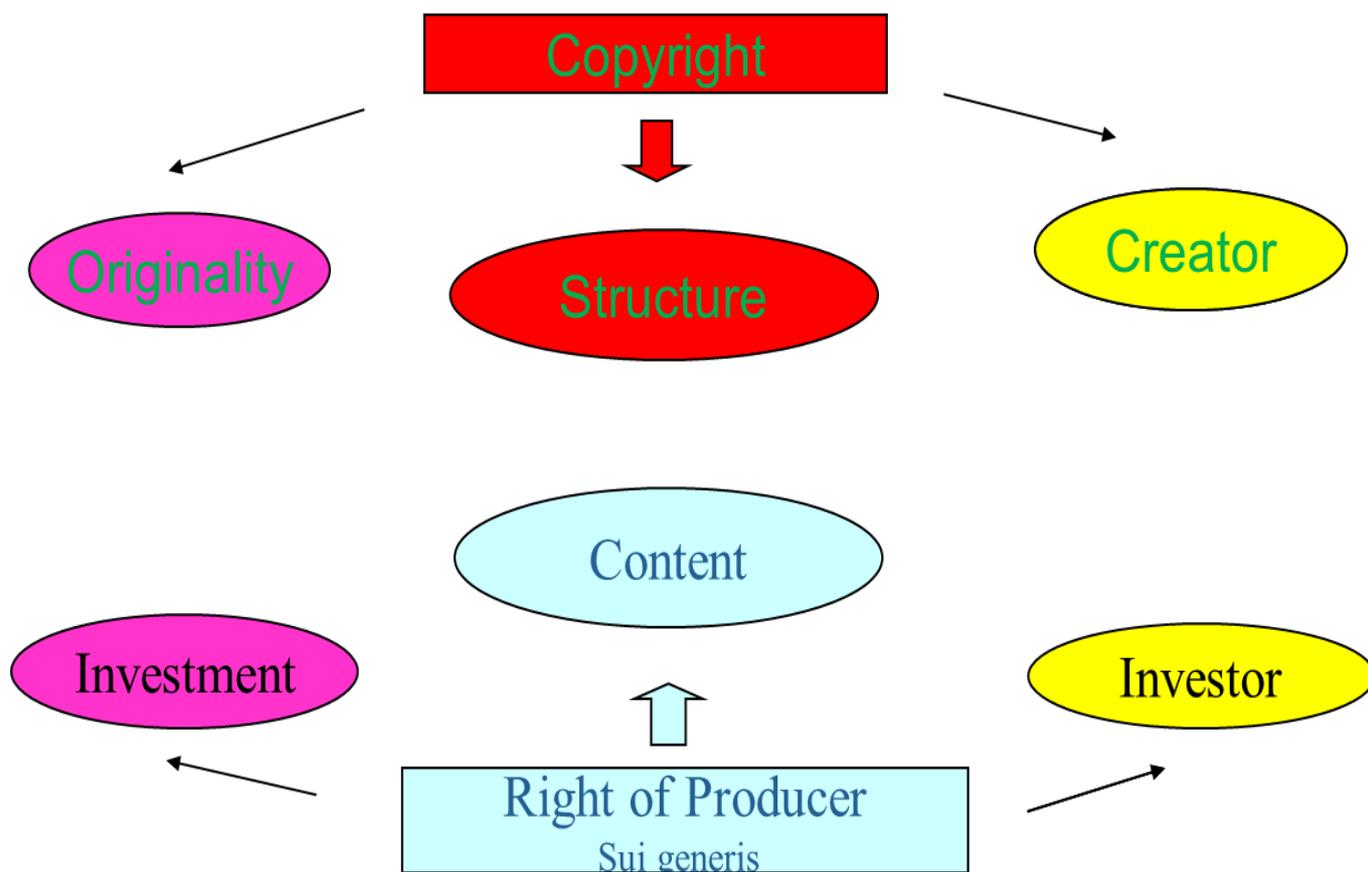

Figure 14

As IPUG Members we are aware of antitrust law theoretical background which allows for our peers to confirm the basis to trigger a claim in front of the competition authorities. Situation is nevertheless very imbalanced for European and APAC based IPUG Members as 95% of RDPs are US Incorporated

There is also the trend that due to numerous acquisitions by Exchange Group (CMEG, ICE, LSEG, DBAG, HKEX, etc…) the legal entity of the new owning entity then moves jurisdiction.

We note as well that as a result of EU competition authorities decisions a number of RDPs have had to slightly alter some of their contractual position since it was demonstrated there often was a clear abuse of dominant position but too few cases have so far reached their conclusion as the main type of data usage is taking advantage of the foundation of market data: Intellectual Property rights as shown in **Figure 14** above.

A direct Brexit consequence for example is the potential removal of EU DG Competition Authorities milestone cases for the United Kingdom.
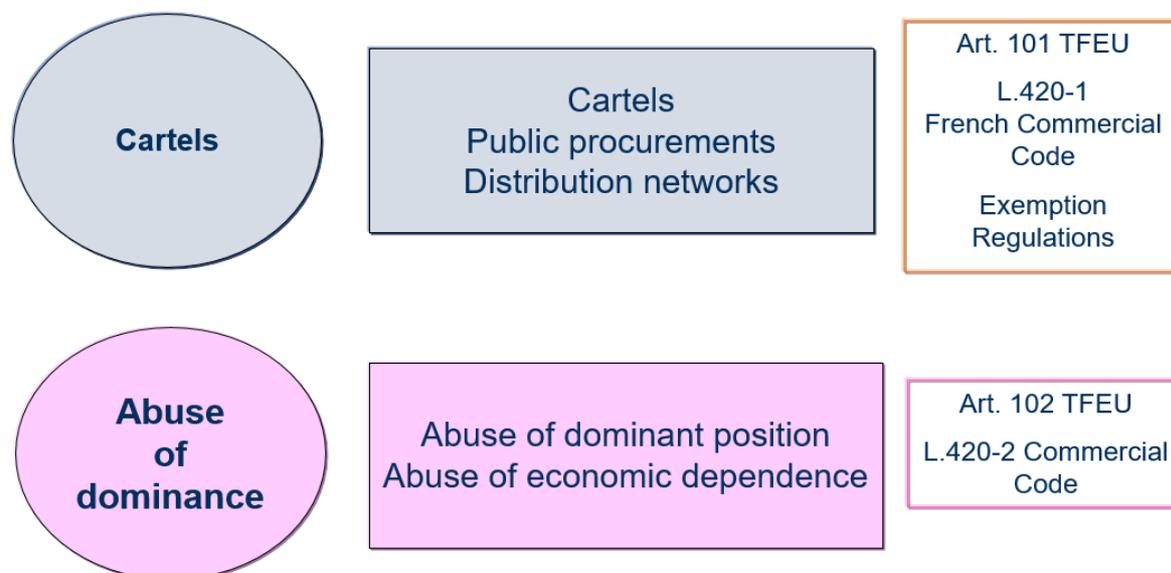
Figure 15

IPUG Members also want to bring to the IOSCO's attention the fact that core market data ownership or rights are not grounded in copyright law, in fact, this data for the most part is not protected by copyright – it is not sufficiently original.

The point that TVs and RDPs are not able to claim ownership under copyright or other relevant statutes, they obtain these rights solely by inserting and enforcing their ownership to core market data through agreements where they control the terms and conditions (Data & Price Policy as explained above). Without these contracts using the one-sided "contracts of adhesion" model, TV's are extracting rights and imposing restrictions that they would not otherwise have under law. Because they control the terms of these agreements and insist upon these terms as a condition precedent to obtaining the data, they are able to enforce ownership rights and to impose restrictions that are not granted otherwise and ultimately preventing fair and equitable access.

In our view of this question, yes, timely and "equitable" access is indeed hindered when the constant threat of suspending or refusing to deliver core market data when new unilateral terms are introduced (typically by simply updated a TV or RDP policy website) or by adding onerous, unexpected and technically unimplementable Units of Count. IPUG Members see that this adds to both expense and unanticipated potential liability (i.e., where perhaps restrictions did not exist in the past, or there are not adequate tools for reporting usage, etc. thus the client is forced to obtain a more costly "Enterprise" agreement).

We are happy to discuss this point and submit precise and documented examples (e.g., CME Group Derived Data Schedule requirements where new ways to report and charge are introduced while there are no adequate tools in traditional market data reporting to comply or even to estimate expenses). But to base the central of point of Question 6's response as though a genuine right in the Intellectual Property is based on Copyright is not accurate while the issue preventing the "fair and reasonable" access to core market data is found in the complexities and inconsistencies of these contracts. The unilateral nature of these sets of contractual documents required by TVs and RDPs prevents access until certain new processes are in place or the impact of increased costs are determined.

Also, one suggestion if we may, would be for IOSCO to mandate TVs and RDPs to supply any clients a sample Master Agreement / Addendum / Schedule covering all of the core market data services. IPUG Members would have no difficulty, to demonstrate that TV's contractual set up inhibits "fair and reasonable" access due to the complexities and inconsistencies and Unit of Count (UoC) requirements embedded in these agreements.

This is especially the case where traditional market data technical entitlement and metering tools made available by the duopoly Bloomberg & LSEG/Refinitiv are not offering the capability to meet the most innovative policies and reporting requirements, such as numbers of clients or reporting is based on a confidential information outside the IPUG members usual market data Standard Operating Procedure/Runbook remit.

Additionally, on this point, if Intellectual Property Rights IPR ownership relates directly to Question 6, IPUG Members are contributing data (including Listed Equity instruments as is the case for this IOSCO Consultation) that is being aggregated, repackaged and resold. IPUG members strongly feel that despite numerous biased claims in the press from exchange/TVs lobbying bodies and RDP's justifying why they claim IPR on this data that they've aggregated, databased or modified (and consequently impose terms on the users), the argument leads to commercial abuse like value based pricing contradicting "fair, equitable and timely access".

This model is rather inequitable, especially when considering that IPUG Members are to provide this data free of charge due to the one-sided contractual structure above detailed, furthermore, when TVs and RDPs monetise/resell the quotes/data to IPUG Members, the contributors, at inflated or duplicative pricing and with complex and restrictive usage terms. There should be standards (restrictions) on how this data is

resold back to the initiators/creator to avoid this Abuse of Dominant Position see **Figure 15** above.

Note: The legal notion of *Caveat emptor* principle exists under English and NY laws but has the *no duty of good faith* under English law. As the majority of RDP's are US firms, Non-US clients are always dragged into a legal field of knowledge they do not master… Also, while many US states have common law legal systems with shared features with English law, there are many differences in practice and theory and these points refer to only a few.

IPUG Members note that some similarities exist between both legal systems:
- Freedom of contract: it is for the parties to conclude the deal
- Limitation clauses: generally enforceable on their terms, other than for fraud or willful misconduct (In UK, Unfair Contract Terms Act will apply to standard terms of business and require reasonableness for exclusions –but will a large financial institution get much sympathy from a judge ?)
- In the event of dispute, each party is obliged to share information with the other party (discovery / disclosure process)
- Litigation in either country is expensive

IPUG Members also note that some differences exist between both legal systems:
- Data protection / privacy is becoming bigger issue in US, but with GDPR and the most recent DSA/DMA just issued by the European Commission, IPUG Members really hope the EU can shed some light on the abuse of extra-territoriality and data IPR abusive claims.
- California Consumer Privacy Act CCPA
- Potential for "punitive damages that we see in US agreements"
- NY law often chosen for US contracts
- Other US states' law or jurisdiction generally avoided by non-US financial institutions (especially if jury trial is likely)

For other legal frameworks, IPUG Members noted that agreements under Chinese law with Trading Venues as well as RDP's insist on the notion of "dispute resolution" in their contract clauses. It is also the only country IPUG Members know of where clauses like "licensee shall not exploit the service provided by Licensor to distribute unwanted or uninvited communication or online advertisements that contain reactionary, pornographic and other harmful information". IPUG members are not used to clauses making reference to the notions of religion, gambling, homicide, terror, and financial order disruption in a TVs and RDPs contractual documents. Furthermore, data protection / privacy clauses are almost non-existent and contracts even request "User & Trader" passports copies to be supplied and data files "not to be encoded".

The topic of Data Protection and specifically for some types of execution activities on TVs like Hedge Funds or Electronic Liquidity Providers – Systematic Internalisers (ELP-SI), client privacy has always been in issue. Some smaller sized IPUG Members are concerned over activities of their "star traders" being observed or proprietary algos being reverse engineered. In EU countries, providing names and passport information

of Authorised Traders is common as detailed in MiFID II for the access to RM, MTF (for Listed Equities).

Nevertheless, as detailed below, the point on Data Usage Declaration (DUD) and Usage Of Service Statements (UOSS), highlights RDPs' intimidating request of employees details and clients names is seen by IPUG Members as illegitimate usage of their personal data.

Also, on the back of Brexit, IPUG Members noted the recent rush of MTF/OTF/RM Participants with English citizens as Authorized Traders, where the then approved National Insurance NI number as person identifier, had to quickly be replaced by the same person's Passport Number due to the new Third Country status of the United Kingdom.

A view shared by many IPUG Members across Europe is that core market data should be regarded as a "public good". One knows how the clear abuse of the MiFID II Reasonable Cost Basis (RCB) by seasoned TVs lawyers to make core market data available free of charge after 15 minutes, is at least in part based on the "public good" concept.

Q6b3 Termination of Access

A number of TVs also impose licensing terms for the retention of information (also called databasing / historization fee). The most innovative of them impose an additional payment for information collected during the term of the contract to be executed at the beginning of the service term and paid prior to the termination of the then term. This fee can be set in advance, like €XXX per month of data collected during the contract term or even "left to the discretion of the licensor to assess the fee.

Most recently, IPUG Members reported that, on top of the above request **from TVs**, they also face a very similar Historisation/Databasing fee **from RDPs** which also impose a levy, sometimes even without clause in their contract on the very same TV data they have redistributed to the IPUG Member. This "double hit" on IPUG Members is a common practice of **TVs claiming IPR and RDPs claiming Distribution Rights (DR)** to justify the incremental billing.

RDPs especially tend to claim that "Precautionary cancellations" are invalid as the RDP in its "reasonable discretion" decides such client issued contract ending documents are not a clear termination.

IPUG Members pay close attention to what the contract clauses says about delivery of notice as it is often defining a very specific recipient and timeline of deliver so one is warned to diligently follow the provisions. TVs and RDPs contracts often limit retention to one copy (hard or soft) which in the cloud world is unlikely to reflect reality of bank back-up processes. This shows how TVs and RDPs "are always a train late" on how IPUG members make use of the information, trying to catch up thanks to Use Case licensing irrespective of the data content itself or Compliance Reviews/Audits…

<u>Note</u>: IPUG Members often report that TVs and RDPs are a long way from standardized contractual terminology, even though there are strongly desired by clients. Therefore, RDPs in their majority have a general reliance on "honesty statements" from users as it is an easy way to cross-reference it for subsequent audits. Now due to heavy workload and diminishing qualified resources in financial institutions, consumers are reticent to engage in complete and through project recording all exact use cases for fear of increased fees. "TVs just want to run audits for significant incremental revenue it generates", whilst this client complaint, even when it makes the front page is not (entirely) true, there is now new/known optimal model which prevents IPUG Members paying more than necessary when the TVs and RTVs Pricing Model/Rate Card has its foundation on Value Based Pricing!

Financial Institutions know it is essential to preserve the future right of use of cancelled contract data for dealing with customer complaints, as well as regulatory/compliance purposes.
Whilst data purging is a well understood notion, most TVs and RDPs contractual limitations do not match the legal/regulatory required retention period. The latest SEC Rules, ESMA RTS for MiFID II are clearly unknown of most RDP's when IPUG members read their termination clauses. RDPs data flushing requirement is always shorter than the regulatory compliant deletion cycle imposed on IPUG Members, so to avoid a surprise, recommendation is to always check what the RDP contract says.

On the data itself post termination, TVs and RDPs position vary widely. Most RDPs ask that all their data and derived data to be deleted, sometime with certification by clients authorized signatory. Sadly, others agree that RDPs data may be held solely for regulatory purposes but only for a fee. Ultimately for smaller RDPs, there is no deletion requirement at all in the contract clauses.

<u>Note</u>: The most recent practices of unilateral agreements cancellation by RDPs, is used to allow for new more punitive terms to be inserted in the "updated" contracts.

To finish the review of the contractual aspect, IPUG Members consistently report that the clear aim for TVs and RDPs is to avoid presenting common contractual and licensing terms. Despite several initiatives over the last 20 years at least, there is no effort made by any of these TVs or RDP's to even agree to use the same terms in their Master Agreement which the most common backbone of every legal relationship.

We all use the same core market data in Real Time from TVs for example but there is a clear refusal from any of them to alter any of their existing "Terms" to converge with their competitors in making the understanding by clients easier. IOSCO could think that this attitude is purposely taken to allow for a Unique Selling Point (USP). "Divide and Conquer" is common practice from RTVs when they are plainly redistributing data and make significant efforts into hiding the real source of data to foster a more advantageous price point.

Nevertheless, when Trading Venues make a point of adding multiple layers of complexity and administrative burden on their clients, this is highlighting a willingness to keep the differentiation of any of their service despite lobbying communication from the two main Trading Venues professional bodies. No TV will even agree to the most recent initiative of Digital Rights Management (DRM) which would allow for the core terms in contracts to be commonly set and represented by an alpha-numerical code for consistency and huge improvement in knowledge distribution to all clients.

Despite US Professional Associations DRM remains a pilot at best internally tested by a handful of firms with enough IT budget to run this initiative

DRM is a Standardisation of contracts using ODRL and helps to automate manual processes in the common standardization of the Data Rights Of Usage. The aim is to deliver automatic DRM of the TVs and RDPs Data and Price Policy into the clients' entitlement systems. The main use case identified so far, is on TVs Non-Display Usage NDU. DRM ideally would track the other licensable usages under Redistribution and Derived Data. It also presents a very significant limitation as uncertainty can not be computed so it can't deal with a TV or RDP inconsistent Data Policy or Price Policy.

Sadly, the two major obstacles to DRM are:
- No TV or RDP has any interest in being automatically benchmarked and its USP or massively profitable revenue generating contractual framework being jeopardized.
- IPUG Members feel that without the support the main two Inventory Management System providers (TRG & MDSL) this will remain the luxury of a couple of "bulge bracket" US financial institutions.

Focusing back on the concerted effort of TV s and RTVs to maintain opaque and complex terms in their contractual framework (Data Policy & Price Policy) allows for a disparate and widely variable price point setting for the same service – Level 1 Real Time datafeed for example – in the same jurisdiction and similar listed equities instruments.

As a result, IPUG Members are unable to implement globally consistent processes and the resulting "ancillary" access cost to core market data increases every year as previously mentioned due to this layering of contractual/non contractual clauses.

Note: IPUG members have also been recently made aware of the activities of some "specialized consultancies" which provide compliance assistance to market data consumer firms, including banks, brokers, investment managers and hedge funds.

These consultancies "Compliance Support Teams" will offer the following services:
- Review existing banks application inventory management and reporting practices
- Analyze and document applications consuming market data – sometimes offering their own software
- When it is the case, they identify gaps in the implemented Trading Venue policies and potential contractual compliance issues

- They detail reporting gaps, recommend and if contracted, can implement remediation steps
- An online database which stores all Data and Price policies from every Trading Venues related to market data usage.

Note: IPUG Members find it is rather odd to **pay a consultancy/professional** services vendor to download TVs core market data, typically for the above detailed **Real Time, Derived Data, Redistribution, Non Display Usage information, which in the case of Listed Equities is public, available, and free to view and download !** Funnily enough, Data & Price Policy are the only thing that are "free" from a TV that ultimately some consultancies/vendors manage to find a way to charge for…

Typical sample of such online access is shown in the ==*Figure 16*== below:
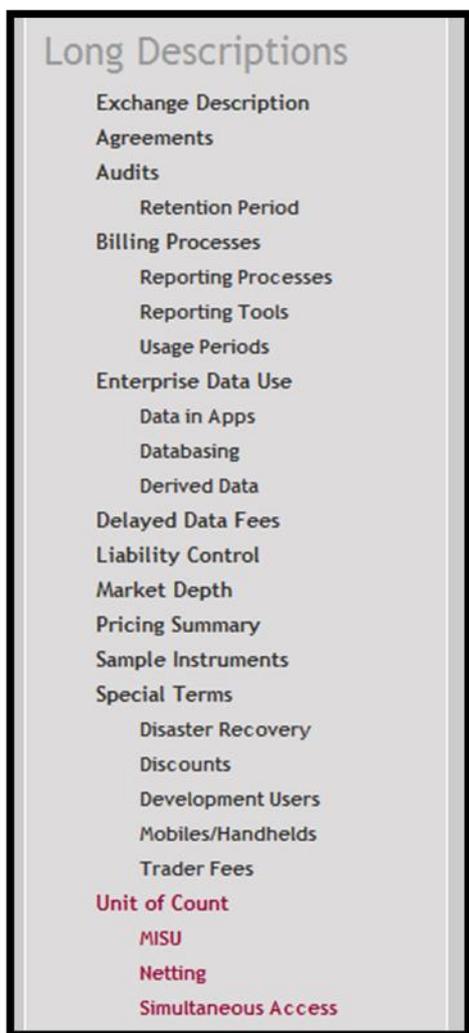
Figure 16

<u>Issue is that these very same consultancies above described, then run training sessions for TVs and RDP on:</u>

- How to benchmark the TVs licensing portfolio versus other TV's?
- How to implement different types of licenses not yet in portfolio?
- What are the most profitable licensees and pricing range?
- What are the new usages identified in user firm that are not yet licensed by any Trading Venue to create new licensable revenue?
- What are the types of existing services/products that can be refined/updated to extract higher fees?
- How to optimise the "client coverage" thanks to BMR?
- How Consultancies specialist personnel can support TV & RTD in the implementation of the above detailed "IPR enhancing" portfolios?

Despite such above detailed troublesome offerings, numerous market data contracts from second tier TVs and RDPs are out of date and without expert knowledge on the client side a number of chargeable usage clauses are potentially unenforceable but not every bank has a trained & experienced market data IPR expert available. This explains why TV's are aware of the need to alter the content of their contractual framework. This allows them to keep on meeting requirements of "optimal liquidity platform" and the "place to trade" as this is the primary requirement for the creation of data points and the associated incremental licensing that will result when they sell it via RDP's.

<u>Nevertheless, RDPs Number 1 priority is to minimise their own liability in relation to the IPR owned by the Data Source, TV in the present case!</u>
RDPs know that new contracts would mean endless negotiations and the possibility to reduce the present revenue stream which is not possible since they are closely tracked in their performance by financial instruments (see FTSE Mondovisone Exchange Index)

Traditionally, other than the 6 biggest exchange groups, the tens of small TV's lack the resources and ability to fight the "duopoly" of the core market data Listed Equity redistribution: **LSEG/Refinitiv and Bloomberg**. As a result, most smaller TV's "accept" practices of the two dominant Listed Equities RDP's with no regard for any "market data best practice" since their focus is not to address its impact on clients/user firms but uniquely aimed at fostering their wider commercial development.

Also the contractual framework is pipped in favor of TVs and RDPs (also called Market Data Distributors MDD by the European regulator) since the clients/participants are being coerced to execute **"adhesion contracts"** that are foisted upon all IPUG Members. The terms of such agreements which are unilaterally optimised to favour the licensor do create an unwritten demarcation between the licensed usage and the non-defined usage creating a double-edged sword for licensees:

- On the one hand IPUG Members can only use the information usage within the "contract clauses box" defined by the licensor

- On the other hand, any *non-defined* usage becomes *renegade* and as a result the licensee falls foul of Compliance Review and Audit fines

Most important is that these "adhesion contracts" do create a *licensing reserve* where at its discretion, the licensor can issue incremental unlimited licenses and chargeable usage rights. This is a massive source of frustration for clients, due to the anti-competitive situation that is clearly detrimental to all clients.

Now, on the second part of question 6 of the <u>factors to be considered in the context of evaluating "fair, equitable and timely access"</u> IPUG Members are rather vocal as the pecuniary aspect immediately comes to the forefront:
We could suggest that *liquidity/market share* is a factor that would really be relevant for the pricing of the Listed Equity data access fee.
Our peers of BVI (German Asset Manager Association), and very sturdily constructed studies from OPIMAS or COPENHAGEN ECONOMICS do tackle this aspect in detail and with thorough financial data background.

➔ IPUG can supply them to IOSCO upon request with the authors distribution approval

Sadly, as shown below in **Figure 17, Figure 18, Figure 19** and **Figure 20** IPUG members have experienced the opposite effect since MiFID I back in 2008…
As the market share of the legacy exchanges decreased the level of fee TV's charged coupled with the number and complexity of market data licenses (Data & Price Policy) has been increasing at an unprecedented scale

In **Figure 17** IPUG Members made the effort to gather the public Listed Equity prices from the Trading Venues and displayed the consistent trend of TV's (now called Regulated Market since MiFID II) to increase market data fees as their market share was melting like snow in the sun…
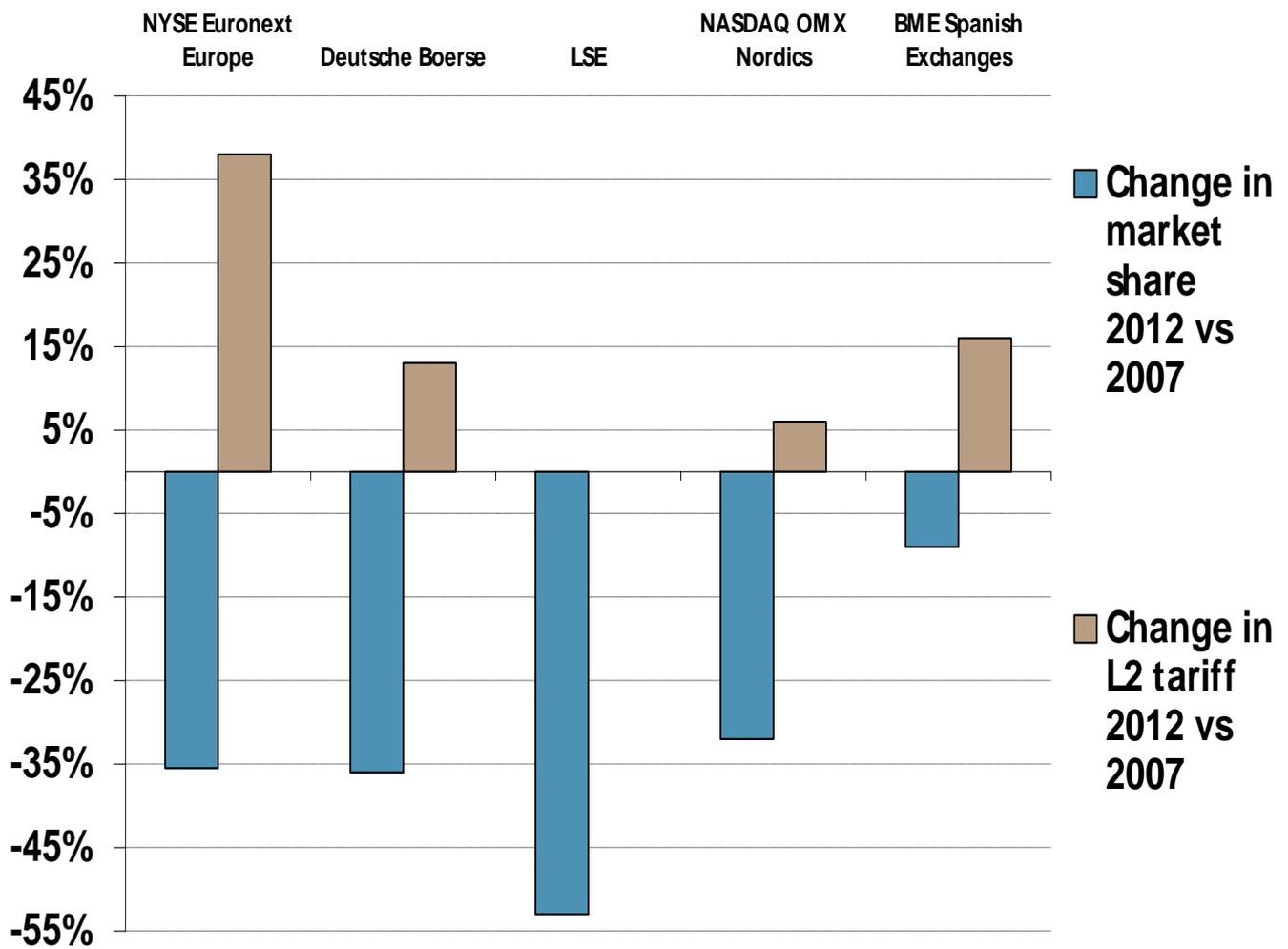
Figure 17 Source: Exchange Price List schedules, Thomson Reuters Equities Market Share Report
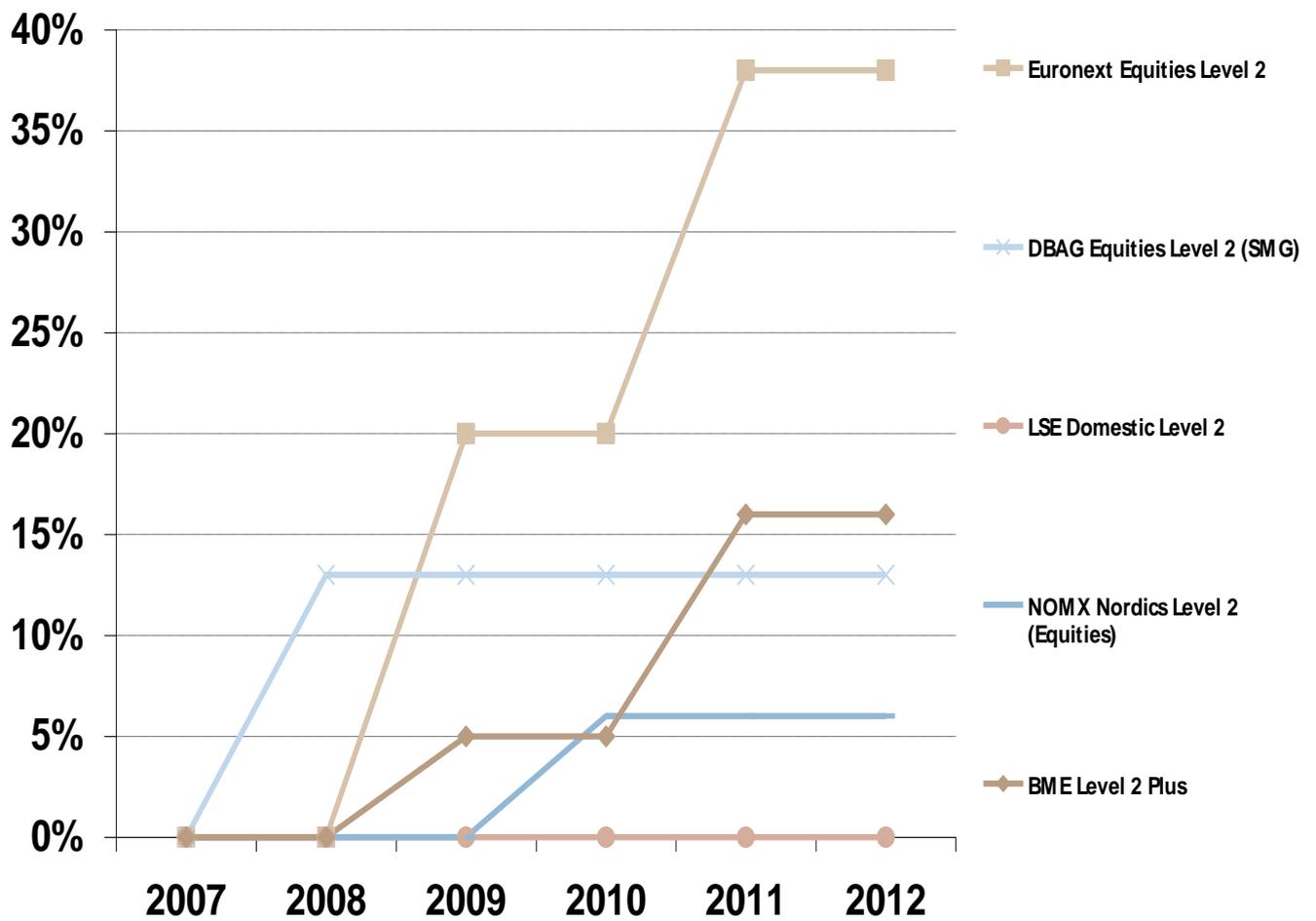
Figure 18 Market Data **Level 2** fee charged for Listed Equities during MiFID I
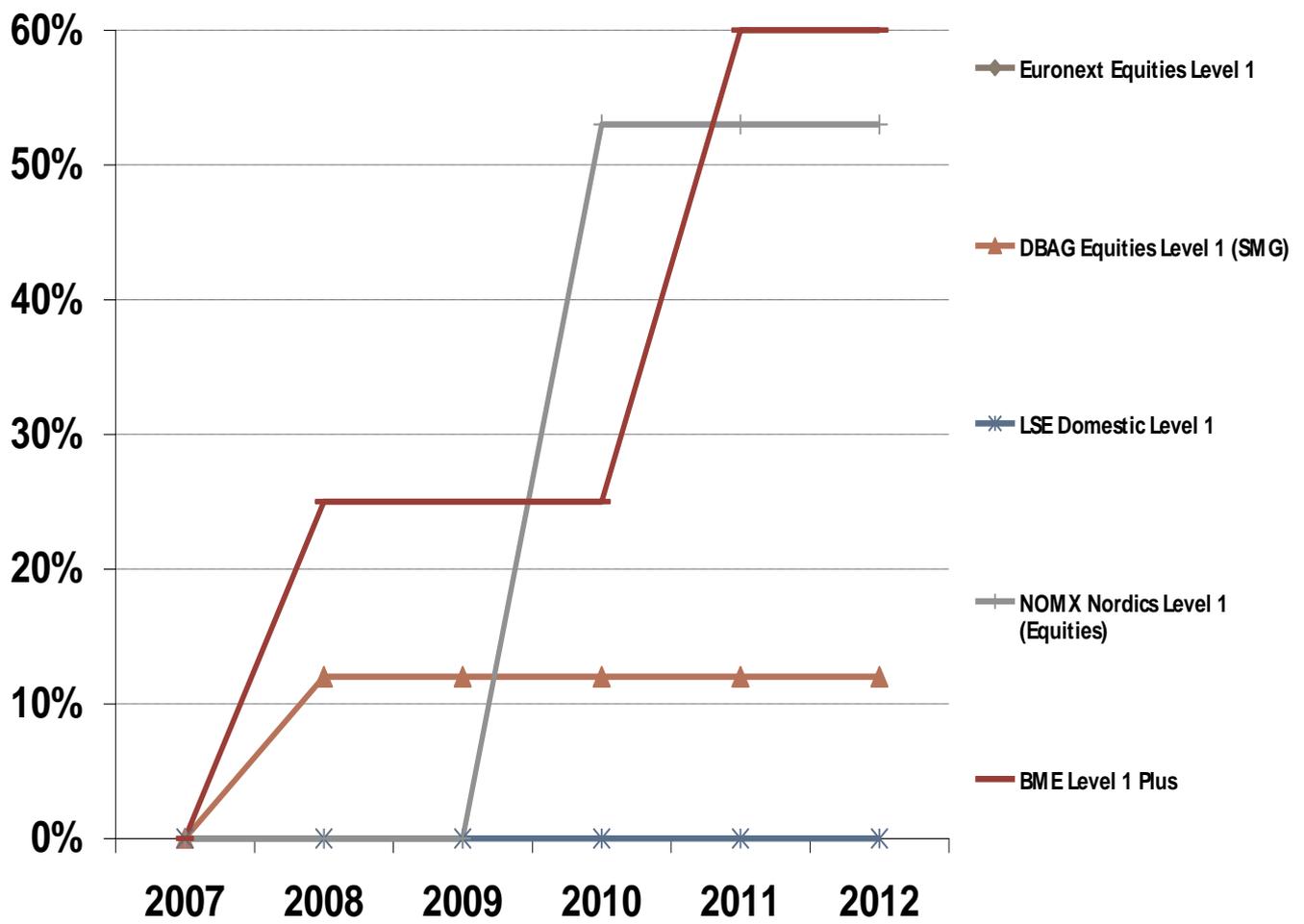
Figure 19 Market Data **Level 1** fee charged for Listed Equities during MiFID I
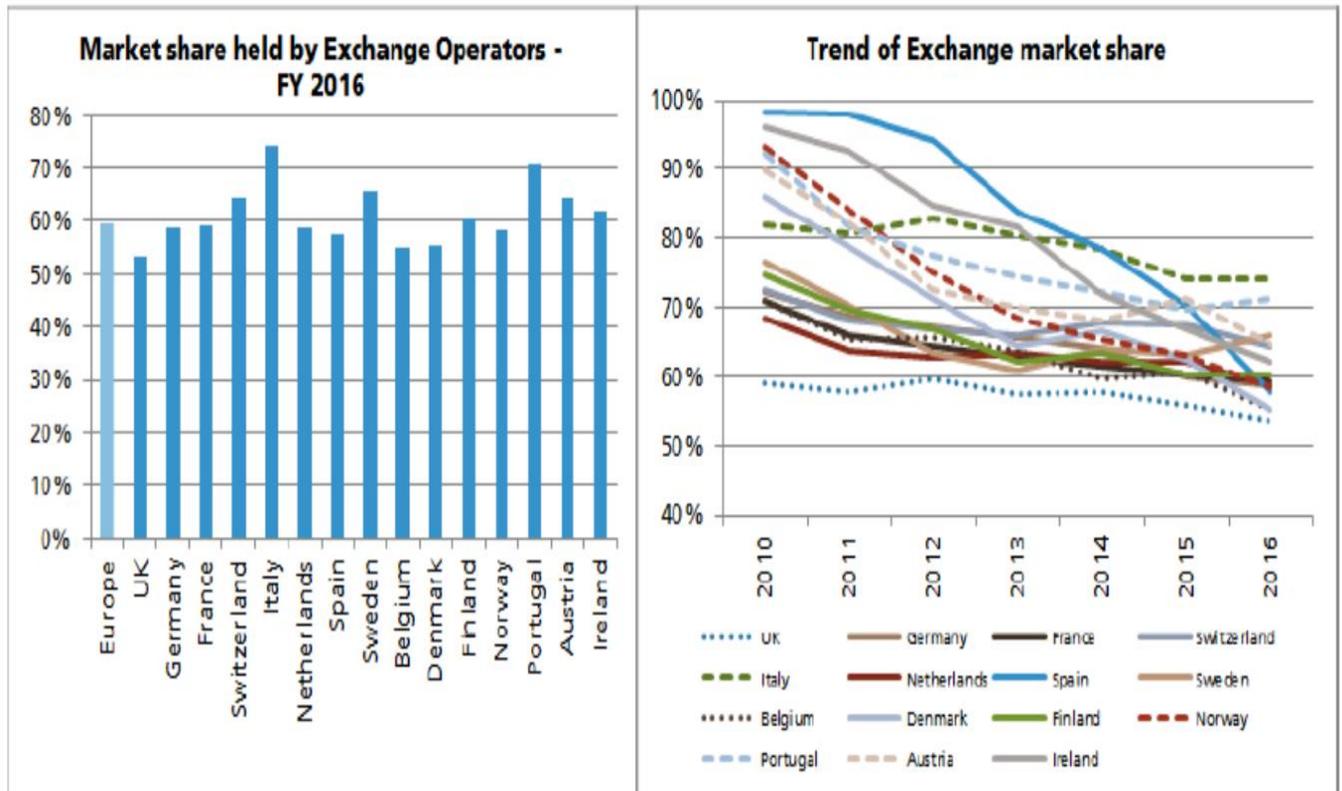
Source: BATS Europe January 2015 to December 2016

Figure 20 Cash (Listed) Equity FY 2016 – Volume & Market Share

> **Q7:** *What types of access do trading venues and RDPs provide? Are some forms of access provided only to specific market participants?*

An suite of examples of recently published studies by AMF (French National Competent Authority), COSSIOM (French IPUG), SIFMA (US Professional Association) presents reviews on the different type of accesses TVs and RDPs provide is supplied as **attachments**

See:
AMF Opportunities An Risks In The Financial Index Markets Report June 2020
SIFMA NYSE Market Data Analysis Fee Report August 2018
COSSIOM DBAG Market Data Costs Report April 2019

This question has also already been answered previously in Question 1

> **Q8:** *Please identify the type of access necessary for different investors and/or market participants to participate and make informed trading decisions in today's markets and the rationale for the type of access and identified differences. In your response, please consider:*
>
> • *Type of investor (e.g. retail or institutional)*
> • *Trading Desk (Proprietary or client-servicing including retail and institutional)*
> • *How orders are sent to a trading venue (e.g. electronic, manual, direct access by clients)*
> • *Order routing*
> • *Business models*
> • *Compliance and regulatory issues*

Answer to Question 8 is already detailed in Question 4 and 5

Real Time TV Data fees for Listed Equities are applied to services provided on top of the core market data service and they include the data point generated after the last bid has met the last similar offer. This is most commonly referred to as 'Last Trade' data.

Pre trade quotes and corresponding orders are normally split between:
1- Level I which typically includes only the single best bid and offer price – often referred to as BBO or Top Of The (order) Book TOTB
2- Level II typically includes some form of depth of order book, we say 'some form' because TV's purposely slice and dice how much depth they offer as licensable item and most try to offer more than one contract object based on how deep a client wants to have access to, for an even greater fee. This dataset is used to execute and participate to the different TVs.

Note:
TV data was typically provided free of charge from many exchanges if it had been delayed by more than 15 minutes but as shown before this has greatly changed despite the efforts of regulators.

Sell Side participants face Rate Cards covering trading fees implemented by Trading Venues and these include:
• Membership fee
• Transaction fee
• Execution Fee
It will be no surprise to IOSCO that IPUG Members have seen increases in all three categories.

We will summarize below in **Figure 21** the different data workflows and types of services necessary in the EU for Buy Side (Asset Manager) interacting with Sell Side (Dealer) market participants to make informed trading decisions and the rationale for the type of access and identified differences of services.
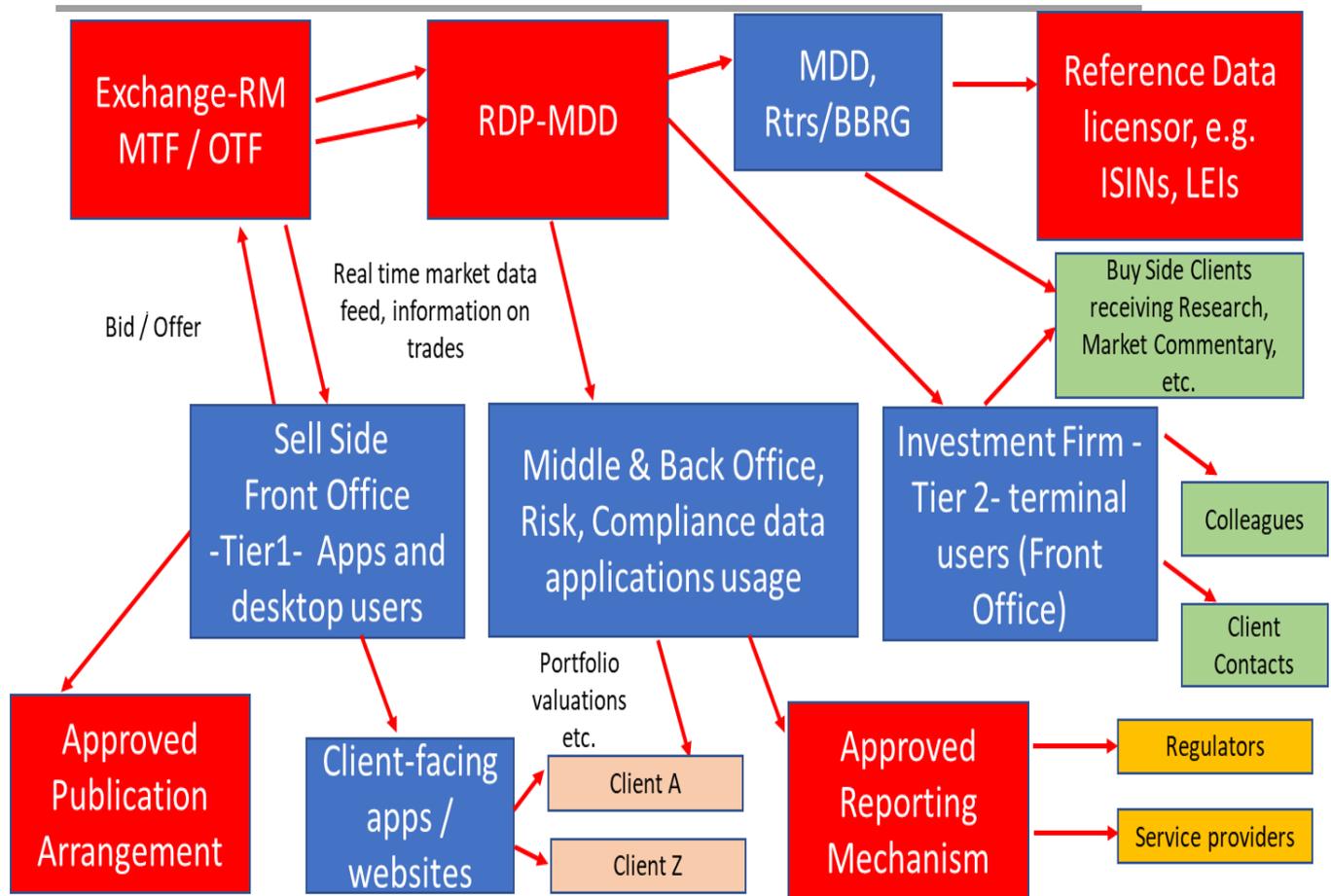
Figure 21

> **Q9:** *What issues or concerns arise in the context of fair, equitable and timely access to market data?*

Q9a The first concern covers the cost (Price Policy) of core market data for Listed Equities charged to clients

For Listed Equities as MTFs were already in place since MIFID I, the main impact for IPUG Members was on the market data cost charged by Regulated Markets RM. The significant increase mostly impacts Non-Display Usage NDU licences, see table below for further details.

IOSCO must note that the shift from voice to electronic trading has greatly increased in EMEA and US, a number of voice rates cards covering execution and transaction fees have been reduced when the execution moved to electronic platform. This trend is now progressing in APAC.

IPUG has considered the five main categories of trading data fees that IPUG members are typically charged for by Regulated Trading Venues (RTV) TVs in this IOSCO consultation:

1) User Display fees
2) Access fees
3) Non-Display fees
4) Redistribution fees
5) Enterprise fees

Overall feedback from IPUG Members is that
- The prices of core market data have increased since the application of MIFID II/MiFIR
- The costs of core market data have increased since the application of MIFID II/MiFIR
- The cost of (1) User Display fees, where there is some **price elasticity** of demand, have increased for IPUG members.
- The cost of (2) -> (4), where the is a high level of **price inelasticity** of demand, have increased in proportion to the increase fees.

Quantitative Evidence
- The prices of market data have increased since the application of MIFID II/MiFIR, in most cases **significantly in excess of inflation and in some cases in excess of 100%.**

The following <mark>Figure 22</mark> shows typical fee increases that IPUG Members have experienced before and after MIFID II (July 2017 to July 2019). Taking into account the fairly modest increases in consumer price indices (CPI) in Europe, this table indicates that many TVs fees have increased significantly more than the increase in   cost   of   producing   and   disseminating   data.

Trading Venue	Category of Fee	Name of Product (Jul17 -> Jul19)	Real time / Delayed	Pre MIFID II July 2017 fee (per month, EUR)	Post MIFID II July 2019 fee (per month, EUR)	Change (EUR)	% Change	EU CPI Jul17->Jul19	September 2020 (EUR)	Change (EUR)	% Change
Borsa Italiana	Non Display	Borsa Italiana Other Application usage charges >10 applications (A2,A3,A4,A5) -- > Borsa Italiana Other Application usage charges Unlimited apps (A2,A3,A4,A5)	Real time and delayed --> Real time	2419	2467	48	2%	1,60%	2528	62	3%
Borsa Italiana	Non Display	Borsa Italiana Other Application usage charges >10 applications (A1) --> Borsa Italiana Other Application usage charges Unlimited apps (A1)	Real time and delayed --> Real time	968	987	19	2%	1,60%	1012	25	3%
Borsa Italiana	Display	All Borsa Italiana markets (AFF, DER, MOT) Level 2	Real time	46	47	1	2%	1,60%	48	1	2%
Bourse de Luxembourg	Display	Pre-Trade Level 1	Real time	30	34	4	13%	1,60%	34	0	0%
Boerse Stuttgart	Display	Pre and Post Trade	Real time	6	8	2	25%	1,60%	8	0	0%
Boerse Stuttgart	Non Display	Price Data + OTC Data (Internal) -> Pre and Post Trade (Trading Activity) + Pre and Post Trade (Information Usage in Other Applications)	Real time	525	1500	975	186%	1,60%	1500	0	0%
Boerse Berlin	Display	Regional Exchanges Germany (Physical User ID)	Real time	8	8	0	2%	1,60%	7,98	0	0%
Boerse Berlin	Non Display	Regional Exchanges Germany (Internal + External) -> Regional Exchanges Germany Tier 1 (inc Tier 2, Tier 3, Tier 4) + Other Applications	Real time	390	875	485	124%	1,60%	875	0	0%
Boerse Dusseldorf	Display	Regional Exchanges Germany (Physical User ID)	Real time	8	8	0	2%	1,60%	8	0	0%
Boerse Dusseldorf	Non Display	Regional Exchanges Germany (Internal + External) -> Regional Exchanges Germany Tier 1 (inc Tier 2, Tier 3, Tier 4) + Other Applications	Real time	390	875	485	124%	1,60%	875	0	0%
Boerse Hanover	Display	Regional Exchanges Germany (Physical User ID)	Real time	8	8	0	2%	1,60%	8	0	0%
Boerse Hanover	Non Display	Regional Exchanges Germany (Internal + External) -> Regional Exchanges Germany Tier 1 (inc Tier 2, Tier 3, Tier 4) + Other Applications	Real time	390	875	485	124%	1,60%	875	0	0%
Boerse Munich	Display	Regional Exchanges Germany (Physical User ID)	Real time	8	8	0	2%	1,60%	8	0	0%
Boerse Munich	Non Display	Regional Exchanges Germany (Internal + External) -> Regional Exchanges Germany Tier 1 (inc Tier 2, Tier 3, Tier 4) + Other Applications	Real time	390	875	485	124%	1,60%	875	0	0%
Bratislava Stock Exchan	Display	Bratislava Stock Exchange	Real time	8	8	0	0%	1,60%	8	0	0%
Bucharest Stock Exchan	Display	Bucharest Stock Exchange Level 2	Real time	20	20	0	0%	1,60%	20	0	0%
Bucharest Stock Exchan	Display	Bucharest Stock Exchange Level 1	Real time	10	10	0	0%	1,60%	10	0	0%
Budapest Stock Exchang	Display	Budapest Stock Exchange Level 1 Package	Real time	12	12	0	0%	1,60%	15	3	25%
Budapest Stock Exchang	Display	Budapest Stock Exchange Level 5 Package	Real time	22	22	0	0%	1,60%	25	3	14%
Budapest Stock Exchang	Display	Budapest Stock Exchange Level 20 Package	Real time	40	40	0	0%	1,60%	32	-8	-20%
Budapest Stock Exchang	Non Display	NOW (New Original Works) Indirect Non Display Internal --> NOW (New Original Works) Indirect Non Display Internal --> NDU MTF + NDU SI + NDU Trading + NDU Other (GROUP)	Real time	250	250	0	0%	1,60%	2500	2250	900%
Bulgarian Stock Exchan	Display	Bulgarian Stock Exchange Level 2 (Physical User ID)	Real time	22,5	22	-1	-2%	1,60%	22,99	0,99	4%
Bulgarian Stock Exchan	Display	Bulgarian Stock Exchange Level 1 (Physical User ID)	Real time	15	14,85	0	-1%	1,60%	15,52	0,67	5%
Bulgarian Stock Exchan	Non Display	Bulgarian Stock Exchange (Internal + External) -> Bulgarian Stock Exchange Tier 1 (inc Tier 2, Tier 3, Tier 4) + Other Applications	Real time	1625	2100	475	29%	1,60%	2289	189	9%
Cboe	Display	BATS Chi-X Level 1 -> Cboe Europe Level 1	Real time	26	28	2	8%	1,60%	29,19	1,19	4%
Cboe	Display	BATS Chi-X Level 2 -> Cboe Europe Level 2	Real time	58	63	5	9%	1,60%	65,11	2,11	3%
Deutsche Boerse	Distribution	Xetra Ultra	Real time	3500,64	3675	174	5%	1,60%	3675	0	0%
Deutsche Boerse	Distribution	Stoxx Indices	Real time	686,4	1100	414	60%	1,60%	1133	33	3%
Deutsche Boerse	Distribution	Eurex Ultra	Real time	1200	1575	375	31%	1,60%	1575	0	0%
Deutsche Boerse	Non Display	Xetra Ultra Internal -> Xetra Ultra Tier 1 (inc Tier 2, Tier 3, Tier 4)	Real time	1750,32	5350	3600	206%	1,60%	5350	0	0%
Deutsche Boerse	Non Display	Stoxx Indices Internal -> Stoxx Indices Tier 1 (inc Tier 2, Tier 3, Tier 4)	Real time	343,2	1025	682	199%	1,60%	1117	92	9%
Deutsche Boerse	Non Display	Eurex Ultra Internal -> Eurex Ultra Tier 1 (inc Tier 2, Tier 3, Tier 4)	Real time	520	3210	2690	517%	1,60%	3210	0	0%
Deutsche Boerse	Display	Spot Market Germany Level 2 -> Xetra Ultra Level 2 (with Automatic Update) Physical User ID	Real time	90,17	93	3	3%	1,60%	92,9	0	0%
Deutsche Boerse	Display	Spot Market Germany Level 1 -> Xetra Ultra Level 2 (with Automatic Update) Physical User ID	Real time	74,26	77	3	4%	1,60%	76,9	0	0%
Deutsche Boerse	Display	Stoxx Indices (with Automatic Update) Physical User ID	Real time	10,82	14	3	32%	1,60%	14,94	1	4%
Deutsche Boerse	Display	Eurex Ultra (with Automatic Update) Physical User ID	Real time	57,2	60	3	5%	1,60%	60,06	0	0%

Figure 22

Trading Venue	Category of Fee	Name of Product (Jul17 -> Jul19)	Real time / Delayed	Pre MIFID II July 2017 fee (per month, EUR)	Post MIFID II July 2019 fee (per month, EUR)	Change (EUR)	% Change	EU CPI Jul17->Jul19	September 2020	Change (EUR)	% Change
Euronext	Distribution	ENX Equity and Index Derivatives	Real time	720	864	144	20%	1,60%	879	14,7	2%
Euronext	Non Display	ENX Cash Level 2 (Cat 1+2+3+4) -> Euronext Continental (Consolidated Pack) Level 2 Enterprise (Cat 1+2+3+4)	Real time	9450	11726	2276	24%	1,60%	13310	1584,35	14%
Euronext	Non Display	ENX All Indices (Cat 1+2+3+4) -> Euronext All Indices Enterprise (Cat 1+2+3+4)	Real time	1185	1698	513	43%	1,60%	1926	228,1	13%
Euronext	Non Display	ENX Equity and Index Derivatives (Cat 1+2+3+4) -> Euronext Equity and Index Derivatives Level 2 Enterprise (Cat 1+2+3+4)	Real time	455	5160	4705	1034%	1,60%	5858	697,75	14%
Euronext	Display	ENX Cash Level 2 -> Euronext Continental Cash (Consolidated Pack) Level 2 -> Euronext Continental Cash (Consolidated Pack) Level 2 Standard	Real time	91	97	6	6%	1,60%	98	1,65	2%
Euronext	Display	ENX Cash Level 1 -> Euronext Continental Cash (Consolidated Pack) Level 1 -> Euronext Continental Cash (Consolidated Pack) Level 1 Standard	Real time	63	69	6	10%	1,60%	70	1,15	2%
Euronext	Display	ENX All Indices --> ENX All Indices Standard	Real time	16	18	2	9%	1,60%	18	0,3	2%
Euronext	Display	ENX Equity and Index Derivatives Level 2 -> ENX Equity and Index Derivatives Level 2 Standard	Real time	32	35	3	8%	1,60%	35	0,6	2%
Euronext	Display	ENX Commodity Derivatives --> ENX Commodity Derivatives Standard	Real time	12	15	3	27%	1,60%	16	0,25	2%
ICE	Display	ICE Futures Europe (Financials)	Real time	99	99	0	0%	1,60%	92,92	-6,08	-6%
ICE	Display	ICE Futures Europe (Commodities)	Real time	99	113	14	14%	1,60%	105,59	-7,41	-7%
ICE	Display	ICE Endex	Real time	99	99	0	0%	1,60%	92,92	-6,08	-6%
Irish Stock Exchange	Distribution	Irish Stock Exchange -> Euronext Dublin Equities	Real time	1248	1524	276	22%	1,60%	1550	25,9	2%
Irish Stock Exchange	Non Display	Irish Stock Exchange Internal -> Euronext Dublin Equities (Cat 1+2+3+4)	Real time	624	2843	2219	356%	1,60%	2086	-757	-27%
Irish Stock Exchange	Display	Irish Stock Exchange Level 2-> Euronext Dublin Equities --> Euronext Dublin Equities L2 Standard	Real time	18,72	20	2	9%	1,60%	20,7	0,35	2%
Irish Stock Exchange	Display	Irish Stock Exchange Level 1 -> Euronext Dublin Equities	Real time	12,48	20	8	63%	1,60%	Discontinued. Only L		0%
London Metal Exchange	Display	LME Data	Real time	72	80	8	11%	1,60%	76,02	-3,98	-5%
London Metal Exchange	Display	LME Data	Delayed	19	21	2	11%	1,60%	20,27	-0,73	-3%
London Metal Exchange	Display	LBMA (Platinum and Palladium)	Real time	8	11	2	26%	1,60%	11,83	1,21	11%
London Stock Exchange	Non Display	UK Market Data Level 2 (member) Tier 1 – Enterprise – All Uses --> UK Market Level 2 (member) Trading based activities as principal + UK Market Level 2 (member) for customer business facilitation + UK Market Level 1 (member) Trading Platforms	Real time	4279	7481	3203	75%	1,60%	8227	746	10%
London Stock Exchange	Non Display	UK Market Data Level 1 (member) Tier 1 – Enterprise – All Uses --> --> UK Market Level 1 (member) Trading based activities as principal + UK Market Level 1 (member) for customer business facilitation + UK Market Level 1 (member) Trading Platforms	Real time	2445	4986	2542	104%	1,60%	5264	277	6%
London Stock Exchange	Non Display	International Level 2 (member) Tier 1 – Enterprise – All Uses --> International Level 2 (member) Trading based activities as principal + International Level 2 (member) for customer business facilitation + International Level 1 (member) Trading Platforms	Real time	2139	3432	1293	60%	1,60%	4114	682	20%
London Stock Exchange	Non Display	International Level 1 (member) Tier 1 – Enterprise – All Uses --> International Level 1 (member) Trading based activities as principal + International Level 1 (member) for customer business facilitation + International Level 1 (member) Trading Platforms	Real time	1222	2494	1272	104%	1,60%	2633	139	6%
London Stock Exchange	Non Display	Other Application usage >10 applications UK level 2 --> Other Application usage Unlimited apps UK level 2	Real time and delayed --> Real time	2817	2873	56	2%	1,60%	3033	160	6%
London Stock Exchange	Non Display	Other Application usage >10 applications UK level 1 --> Other Application usage Unlimited apps UK level 1	Real time and delayed --> Real time	1128	1151	23	2%	1,60%	1215	64	6%
London Stock Exchange	Non Display	Other Application usage >10 applications International level 2 --> Other Application usage Unlimited apps International Level 2	Real time and delayed --> Real time	1691	1725	34	2%	1,60%	1821	96	6%
London Stock Exchange	Non Display	Other Application usage >10 applications International level 1 --> Other Application usage Unlimited apps International Level 1	Real time and delayed --> Real time	676	689	14	2%	1,60%	728	38	6%
London Stock Exchange	Display	UK Level 2 (Member)	Real time	127	149	22	17%	1,60%	165	16	10%
London Stock Exchange	Display	UK Level 1 (Member)	Real time	35	39	4	11%	1,60%	44	5	12%
London Stock Exchange	Display	International Level 2 (Member)	Real time	67	81	14	21%	1,60%	89	8	10%
London Stock Exchange	Display	International Level 1 (Member)	Real time	17	22	5	29%	1,60%	24	2	9%
London Stock Exchange	Display	UK Level 2 (Non Member)	Real time	182	186	4	2%	1,60%	194	8	4%

Figure 23

Trading Venue	Category of Fee	Name of Product (Jul17 -> Jul19)	Real time / Delayed	Pre MIFID II July 2017 fee (per month, EUR)	Post MIFID II July 2019 fee (per month, EUR)	Change (EUR)	% Change	EU CPI Jul17->Jul19	September 2020	Change (EUR)	% Change
London Stock Exchange	Non Display	Other Application usage >10 applications International level 1 --> Other Application usage Unlimited apps International Level 1	Real time and delayed --> Real time	676	689	14	2%	1,60%	728	38	6%
London Stock Exchange	Display	UK Level 2 (Member)	Real time	127	149	22	17%	1,60%	165	16	10%
London Stock Exchange	Display	UK Level 1 (Member)	Real time	35	39	4	11%	1,60%	44	5	12%
London Stock Exchange	Display	International Level 2 (Member)	Real time	67	81	14	21%	1,60%	89	8	10%
London Stock Exchange	Display	International Level 1 (Member)	Real time	17	22	5	29%	1,60%	24	2	9%
London Stock Exchange	Display	UK Level 2 (Non Member)	Real time	182	186	4	2%	1,60%	194	8	4%
London Stock Exchange	Display	UK Level 1 (Non Member)	Real time	48	49	1	2%	1,60%	51	2	5%
London Stock Exchange	Display	International Level 2 (Non Member)	Real time	99	101	2	2%	1,60%	105	4	4%
London Stock Exchange	Display	International Level 1 (Non Member)	Real time	27	27	0	0%	1,60%	28	1	4%
Ljubljana Stock Exchange	Display	Ljubljana Stock Exchange Level 2	Real time	21	24	3	14%	1,60%	22	-2	-8%
Ljubljana Stock Exchange	Display	Ljubljana Stock Exchange Level 1	Real time	11	14	3	27%	1,60%	12	-2	-14%
Malta Stock Exchange	Display	Malta Stock Exchange Level 2	Real time	6	7	0	4%	1,60%	7	0,97	15%
Malta Stock Exchange	Display	Malta Stock Exchange Level 1	Real time	4	5	0	8%	1,60%	5	0,67	15%
MTS Markets	Display	MTS Data --> MTS Cash Markets	Real time	117	126	9	8%	1,60%	150	24	19%
Nasdaq Copenhagen	Display	NASDAQ Nordic Equities TotalView	Real time	78	78	0	0%	1,60%	78	0	0%
Nasdaq Helsinki	Display	NASDAQ Nordic Equities TotalView	Real time	78	78	0	0%	1,60%	78	0	0%
Nasdaq Stockholm	Display	NASDAQ Nordic Equities TotalView	Real time	78	78	0	0%	1,60%	78	0	0%
Nasdaq Iceland	Display	NASDAQ Nordic Equities TotalView	Real time	78	78	0	0%	1,60%	78	0	0%
Nasdaq Riga	Display	NASDAQ Baltic Equities and Fixed Income TotalView	Real time	22	22	0	0%	1,60%	27	5	23%
Nasdaq Tallinn	Display	NASDAQ Baltic Equities and Fixed Income TotalView	Real time	22	22	0	0%	1,60%	27	5	23%
Nasdaq Vilnius	Display	NASDAQ Baltic Equities and Fixed Income TotalView	Real time	22	22	0	0%	1,60%	27	5	23%
Nasdaq Oslo	Display	NASDAQ Nordic Commodoties TotalView	Real time	40	55	15	38%	1,60%	55	0	0%
Oslo Bors	Display	Oslo Bors --> Oslo Bors Equties Level 2 Standard	Real time	38	42	4	11%	1,60%	31	-11	-26%
Oslo Bors	Non Display	Automated Trading Application - All Trading Uses --> Oslo Børs Equities Non Display (Cat 1+ Cat 2 + Cat 3) Level 2 Enterprise	Real time	892	935	43	5%	1,60%	2603	1668,15	178%
Oslo Bors	Non Display	Per App ID -> Other Internal Non-Display Usage --> Oslo Børs Equities Category 4. Level 2 Enterprise	Real time	38	306	268	705%	1,60%	420	113,95	37%
Prague Stock Exchange	Display	Prague Stock Exchange Cash Market Level 2	Real time	23	25	2	9%	1,60%	25	0	0%
Prague Stock Exchange	Display	Prague Stock Exchange Cash Market Level 1	Real time	13	15	2	15%	1,60%	15	0	0%
Six Swiss Exchange	Display	Level 1 Data	Real time	23	23	0	0%	1,60%	23	0	0%
Six Swiss Exchange	Display	Level 2 Data	Real time	83	83	0	0%	1,60%	83	0	0%
Six Swiss Exchange	Non Display	For multiple Trading Applications using level 1 and 2 Data (excl. level 2 plus	Real time	3826	3826	0	0%	1,60%	3826	0	0%
Warsaw Stock Exchange	Display	All Asset Classes and Indices (5BBO)	Real time	42	45	3	7%	1,60%	44	-0,8	-2%
Warsaw Stock Exchange	Display	All Asset Classes and Indices (Full Market Depth)	Real time	45	49	4	9%	1,60%	48	-0,98	-2%
Warsaw Stock Exchange	Non Display	Use of Information in Automated Trading Applications -> Use of Information in Automated Trading Applications + Use of Information for the purpose of systematic internalisation (operating SI)	Real time	1145	11933	10788	942%	1,60%	11933	0	0%
Warsaw Stock Exchange		Use of Information in Other Non-display Use Applications	Real time	382	477	95	25%	1,60%	477	0	0%
Wiener Boerse	Display	Vienna Cash Market + Structured Products Level 1 (unit of count User ID)	Real time	35	37	2	6%	1,60%	37	0,5	1%
Wiener Boerse	Display	Vienna Cash Market + Structured Products Level 2 (unit of count User ID)	Real time	44,5	47	2	4%	1,60%	47	0,5	1%
Wiener Boerse	Non Display	Vienna Stock Exchange - Derived Data WBAG real-time Non-Display Usage --> Overall product Derived Data/Non-display without Index Calculation & Index Calculation for third parties	Real time	1200	1400	200	17%	1,60%	3625	2225	159%
Wiener Boerse	Non Display	Vienna Stock Exchange - Derived Data WBAG real-time Non-Display Usage --> Overall product Derived Data/Non-display without Index Calculation & Index Calculation for third parties	Delayed	600	650	50	8%	1,60%	1710	1060	163%
Zagreb Stock Exchange	Display	Zagreb Cash Market Level 2	Real time	10	11	1	10%	1,60%	10	-1	-9%
Zagreb Stock Exchange	Display	Zagreb Cash Market Level 1	Real time	5	6	1	20%	1,60%	5	-1	-17%

Figure 24

The table below illustrates average cost changes for Regulated Trading Venues for the period July 2017 to July 2019.

Category of Fee	Non Display	Category of Fee	User Display
Trading Venue	**Average of % Change**	**Trading Venue**	**Average of % Change**
Athens Exchange	0%	Athens Exchange	0%
BME	52%	BME	4%
Boerse Berlin	124%	Boerse Berlin	2%
Boerse Dusseldorf	124%	Boerse Dusseldorf	2%
Boerse Hanover	124%	Boerse Hanover	2%
Boerse Munich	124%	Boerse Munich	2%
Boerse Stuttgart	186%	Boerse Stuttgart	25%
Borsa Italiana	38%	Borsa Italiana	2%
Budapest Stock Exchange	0%	Bourse de Luxembourg	43%
Bulgarian Stock Exchange	29%	Bratislava Stock Exchange	0%
Deutsche Boerse	307%	Bucharest Stock Exchange	0%
Euronext	367%	Budapest Stock Exchange	0%
Irish Stock Exchange	356%	Bulgarian Stock Exchange	-2%
London Stock Exchange	44%	Cboe	8%
Nasdaq Copenhagen	75%	Deutsche Boerse	11%
Nasdaq Helsinki	75%	Euronext	12%
Nasdaq Iceland	75%	ICE	5%
Nasdaq Stockholm	75%	Irish Stock Exchange	36%
Oslo Bors	355%	Ljubljana Stock Exchange	21%
Six Swiss Exchange	0%	London Metal Exchange	16%
Warsaw Stock Exchange	942%	London Stock Exchange	11%
Wiener Boerse	13%	Malta Stock Exchange	6%
		MTS Markets	8%
		Nasdaq Copenhagen	0%
		Nasdaq Helsinki	0%
		Nasdaq Iceland	0%
		Nasdaq Oslo	38%
		Nasdaq Riga	0%
		Nasdaq Stockholm	0%
		Nasdaq Tallinn	0%
		Nasdaq Vilnius	0%
		Oslo Bors	11%
		Prague Stock Exchange	12%
		Six Swiss Exchange	0%
		Warsaw Stock Exchange	8%
		Wiener Boerse	5%
		Zagreb Stock Exchange	15%

Figure 25

The above *Figure 25* indicate that fees (for the list of typical market data products used by IPUG members) have increased for Non-Display fees and User Display fees,

with Non-Display Fees increasing at a much higher rate. the average percentage increase for Non-Display fees is greater than for User Display fees.

The above is consistent with a survey conducted in 2019 by European IPUG / COSSIOM (French IPUG) with over 80% if of member firms using core market data responded that market data fees have increased post implementation of MIFID II.

➔ IPUG can supply it to IOSCO upon request with COSSIOM distribution approval

IPUG members conducted a review of historical spend for European Regulated Trading Venues over the last 5 years.

Figure 26 below illustrates that the spend for price elastic categories decreased over the past 5 years.

This is because IPUG Members had less demand on the user (bums on seat / pair of eyes) access, due to ever lowering number of personnel in financial institutions, complimented by Market Data teams running number of tailored exercises to remove redundant access, which became possible with the use of the new technologies, such as:

- Automated monthly end user Self-Certification in MDM/TEG
- Implementation of dynamic user entitlement systems
- Switch users to TVs delayed data
- Automated review of user profiles / functional requirement
- Switch users from more expensive level 2 data to cheaper level 1
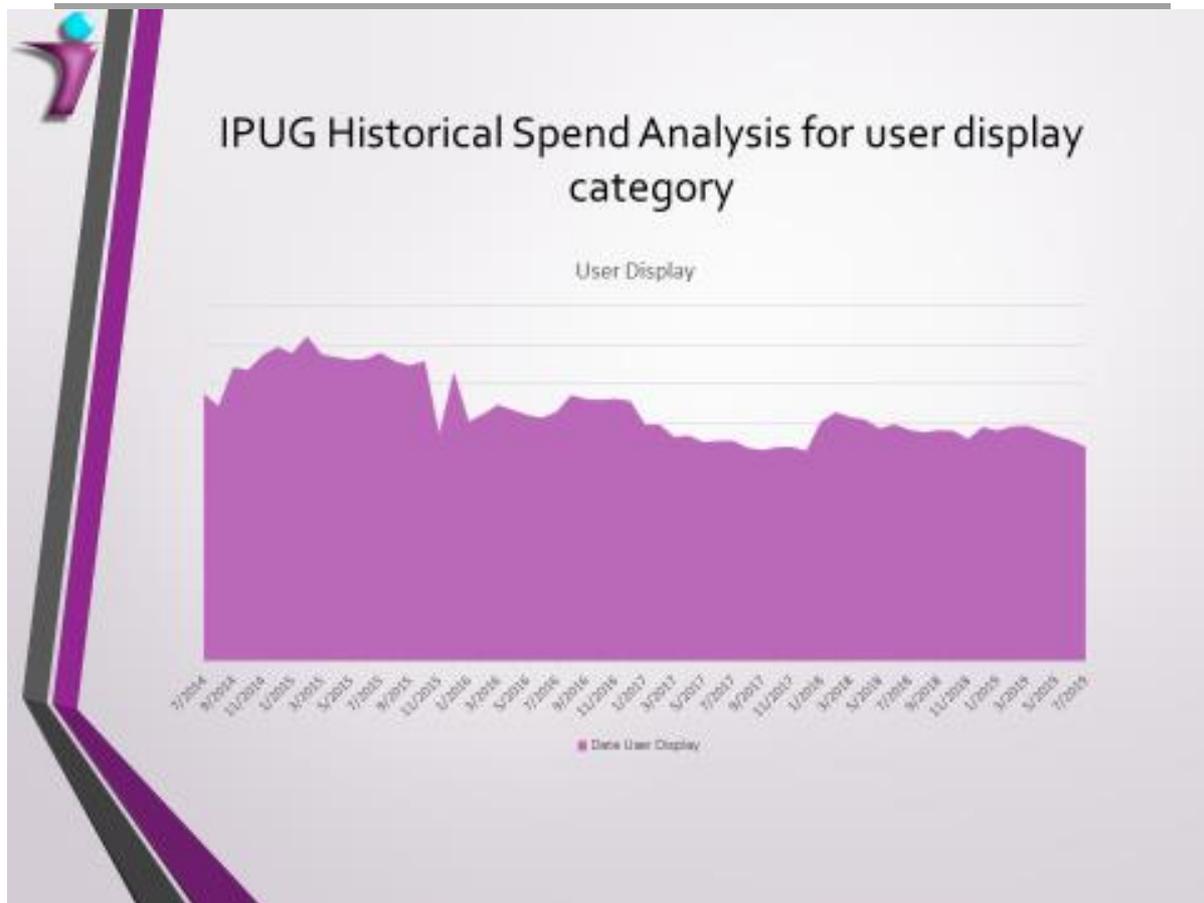
Figure 26

IPUG Members have reported that cost optimisation appears to be very difficult to achieve for the less price elastic categories such as enterprise fees, in particular:

- Non-Display
- Redistribution fee
- Access fee

Therefore, financial institutions have no choice, but pay the TVs enterprise fees for these categories. *Figure 27* below illustrates this trend and shows significant cost increase in these categories.
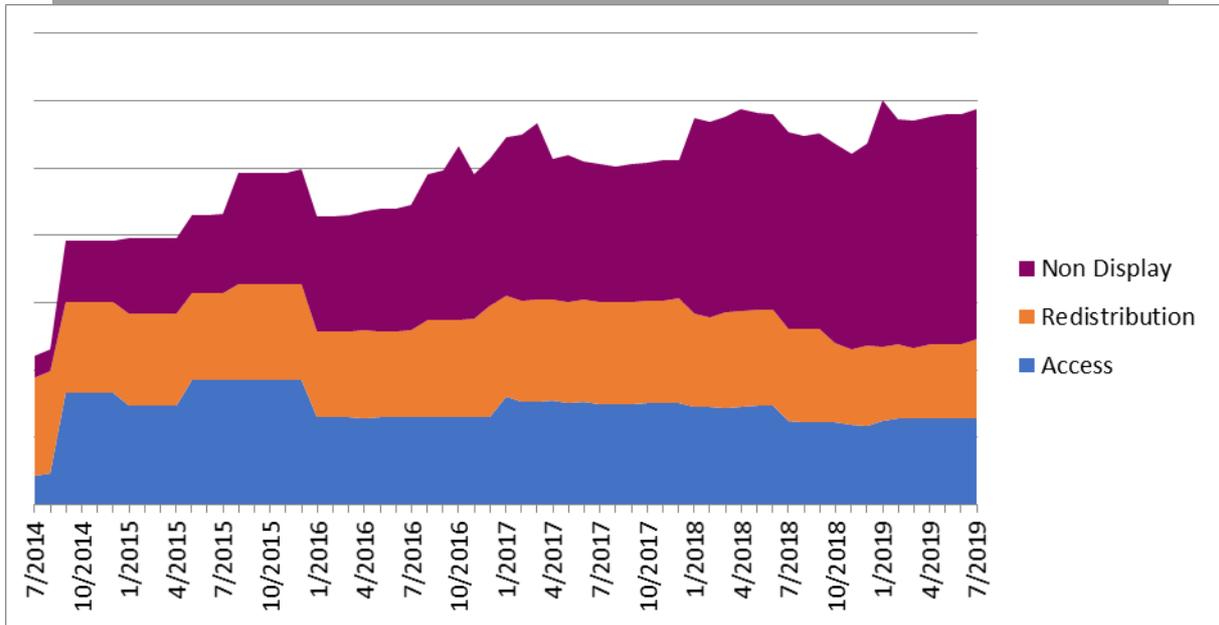
Figure 27

Similar analyses have been done for North American Markets, as discussed at the SEC Market Data and Market Access Roundtables in October 2018. The Comments on Roundtable on Market Data and Market Access can be found via the following link: https://www.sec.gov/comments/4-729/4-729.htm. There also is a comment from SIFMA: https://www.sec.gov/comments/4-729/4729-4559181-176197.pdf Page 18 (*Figure 28* below) illustrates how market data spend have evolved from 2010 to 2017
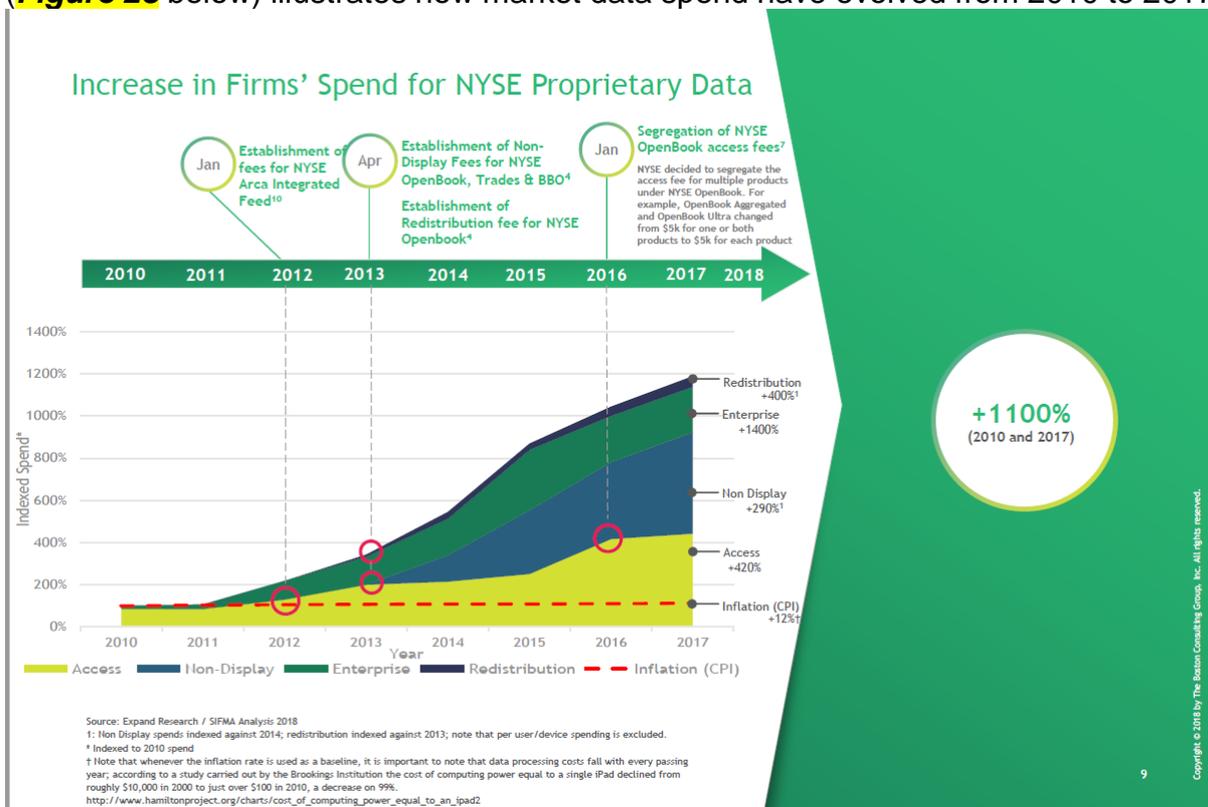
Figure 28

IPUG Members analysis is in line with the report "*Exchanges and Market Data. How much money are they making?*" published by Opimas Octavio Marenzi on 13 February 2020. **Figure 29** below illustrates how profit margin of TVs looks like compared to market data vendors (RDPs/MDDs) and investment banks.

Link: http://www.opimas.com/research/537/detail/

> ➔ IPUG can supply it to IOSCO upon request with OPIMAS distribution approval

FIGURE 1. EXCHANGES' REVENUES FROM DATA EXPLODES

Exchange Revenues from Information Services 2005-2019
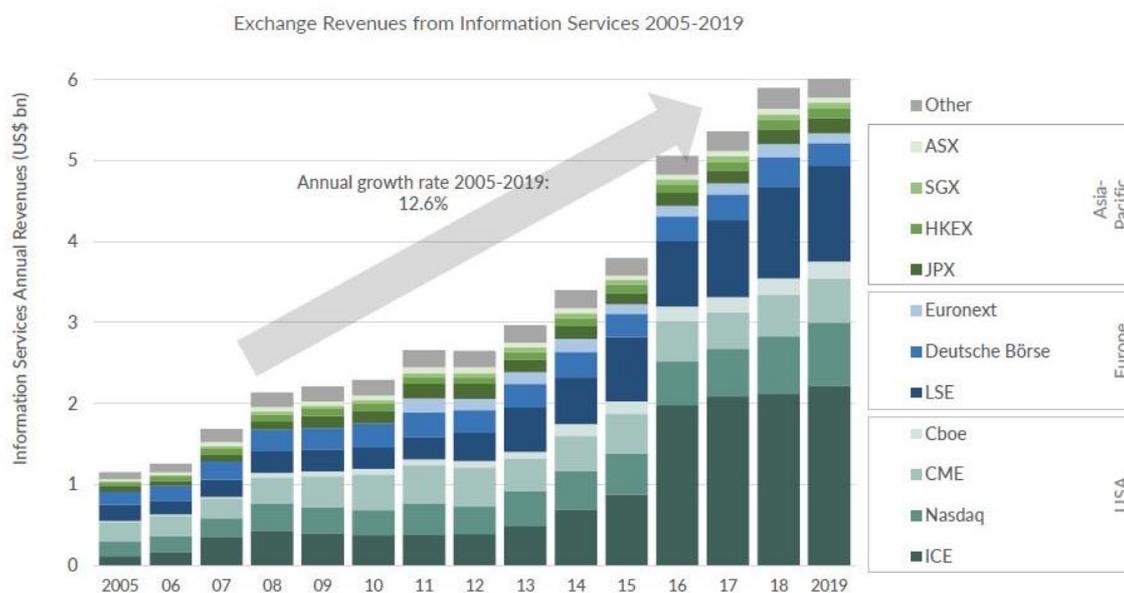
Source: Company reports, Opimas analysis

Figure 29

IPUG members have seen no significant change in the quality or scope of the data from RTVs, so **the value for money of market data offerings by TVs has declined.**

Some IPUG members also indicated change in fees in other categories:
- LSEG Network Service Provider Fees - Increase between 2015 and 2020 is 81.77%. These costs are payable by any firm that receives LSEG data via a vendor; and
- LSEG Membership fees have Increase between 2015 and 2020 – 86.67%.

Q9b Significant issue also identified is the fact that **delayed data** is now chargeable in many jurisdictions' contrary to IOSCO Consultation Report on page 5 note 14:
14 In the EU and in the UK, real-time information must be made available free of charge 15 minutes after a trading venue or APA has published it.

Market participants are increasingly discriminated because a common assumption distilled by exchanges lobby groups and associations would want the regulators and competition authorities to believe that End user display fees from TVs are free of charge.

➔ **However, that is not the case!**

Many "legacy RTV" now identified as Exchange Groups or Regulated Markets RM, due to the huge number of vertical integration companies they have already or are on the path to acquire do charge annually inflation busting increasing fees for **Listed Equity** core market data usage as listed below:

- Licences that are required to *redistribute Delayed Data* (e.g. Oslo Bors (Euronext Group), Nasdaq Nordic, Deutsche Boerse (DBAG), Vienna Stock Exchange, Prague, Ljubljana, Zagreb, London Stock Exchange (LSEG), Luxembourg Stock Exchange, Euronext, Bolsas y Mercados Espanoles (SIX Group) Borsa Italiana (Euronext Group))

- Licences that are required to *redistribute End of Day data* (e.g. Vienna Stock Exchange, Prague, Ljubljana, Zagreb, London Stock Exchange LSEG (before midnight), Luxembourg Stock Exchange)

- Licences that are required to *calculate and distribute indices/benchmarks utilizing delayed and/or end of day data*. (e.g. LSEG After Midnight Distribution licence as of 2020 – new licensed use case. A fee is now charged for the distribution of after midnight LSEG data, which is widely publicly available at no charge via the internet)

- Licences that are required for *Non-Display or Derived Data Usage utilizing delayed data* (e.g.Vienna Stock Exchange, London Stock Exchange LSEG, Luxembourg Stock Exchange)

  But the inconsistency is not limited to the 15 minutes as already detailed above by IOSCO because RTV's themselves have a lose notion of the delayed periods which is greater than 15 minutes (e.g. Euronext MTS Markets Repo Data – the delayed period is 90 minutes; HKEX/London Metal Exchange – the delayed period is 30 minutes)

- Another example within the ESMA MiFID II regulatory requirements: A great number of APAs and OTFs just do not want to offer free of charge 15 minutes policy.

- RTVs formally known as 'Inter Dealer Brokers' but who cover Listed Equity in their MTF and OTF, do not publish market data policies on their public websites.

- Numerous peers have noted that *free of charge delayed data for Listed Equity* is not available (e.g. Gottex, Tradition, LSEG/Refinitiv/Tradeweb, TPICAP, BGC   Cantor)

- Some IPUG members have indicated that market data "price lists" have been only provided based on the type of use detailed by the market participant. Ie, similar to Market Data Distributors like Bloomberg or LSEG/Refinitiv/Tradeweb,

no public "Price List" is made available anymore. It is only once a "conference call", "requirement assessment meeting", or similar "specific usage request confirmation" that a proposal including the cost of access to Listed Equity is bundled in the customised commercial license.

- MDD's like LSEG/Refinitiv/Tradeweb also charge market participants for Delayed data that is free from RTV's also charge Reference data vendor licenses, which would include end of day RTV data.

- This issue of easy money grabbing licensing is not limited to Listed Equities, because even commodities/precious metal exchange HKEX/LME, charges 'per user' fees for delayed data

Interchangeability

Q10: *Please share your view on interchangeability of market data between trading venues. If concerns are identified, please provide suggested mechanisms to address them*

IOSCO must note that in several jurisdictions and regulatory environments, the interchangeability is driven by the ability to switch from Lit to Dark execution platforms.
<u>See example below:</u>
US: Exchange vs Broker/Dealers vs Dark, vs ATS
EMEA: RM vs MTF vs OTF vs ELP-SI
APAC: Exchange vs MTF vs RMO vs PTS (depending on country)

The interchangeability aspect of the Listed Equities data sourcing is only valid where the notion of monopoly, duopoly or even oligopoly of TVs and RDPs does **not** exist.

IPUG Members face a number of issues in order to displace incumbent data sources for others:
- Sourcing and Aggregation: The following components need to have some kind of equivalence: Market, Pricing, News, Regulation, Tax, Corporate Actions
- Data Access: The delivery needs to meet all technical requirements for timeliness, format, customized file template, etc…
- Commercial and contractual: Last but not least, is there any financial or regulatory incentive after all the previous steps have been met?

The very low rate of interchangeability is mainly due to the labyrinths of Data and Price Policies snares actively developed by RDPs and TVs, which often are only mastered by seasoned IPUG members.

IPUG members believe that it is very difficult to foster any kind of benchmark to identify displacement opportunities because of the compliance required with TVs licensing terms and associated contracts complexity and usage policies. TVs are reluctant to

negotiate – and even plainly refuse to negotiate terms – which are typically one-sided as previously detailed. TVs retain the ability to amend contracts and fees unilaterally, even for non-regulatory purposes. By contrast, suppliers (vendors) to IPUG Members for technology and other procurement categories often work with customer contract templates.

Use cases are notoriously narrow and complex; a typical TV Schedule for data may be lengthy and complicated, with many data points reflecting additional pricing factors. Licences often do not cater for extended financial firm groups; for example, if new entities are set up for regulatory purposes, an enterprise wide licence may need to be updated and additional costs applying even if there is no material change to the operations of the business.

IPUG members outlined multiple issues with the specific Unit of Count UoC licensing terms as outlined below. There is a very strong feeling amongst IPUG members that MIFID II Reasonable Commercial Basis RCB obligations are clear in relation to "Per User" fees.

For Display core market data products, TVs should offer a Unit of Count **UoC of Per User where a user is natural person**. IPUG members have observed that there has not been full compliance by TVs in relation to this obligation. Not all EU TVs have offered a Unit of Count UoC of Per User, as set out in ==*Figure 30*==:

ESMA Regulated Market Policy Maker	ESMA Regulated Market	Per User Unit of Count Offered Jan19	National Competent Authority
Athens Exchange	Athens Exchange	No	Hellenic Capital Market Commission (HCMC)
BME	BME	Yes	Comisión Nacional del Mercado de Valores (CNMV)
Bourse de Luxembourg	Bourse de Luxembourg	Yes	
Bratislava	Bratislava	Not yet	National Bank of Slovakia (NBS)
Budapest Stock Exchange	Budapest Stock Exchange	No	Hungarian Financial Supervisory Authority (HFSA)
CBOE	CBOE EUROPE EQUITIES REGULATED MARKET	Yes	
Cyprus Stock Exchange	Cyprus Stock Exchange	Not yet	Cyprus Securities and Exchange Commission (CySEC)
Deutsche Boerse	XETRA (REGULIERTER MARKT)	Yes	
Deutsche Boerse	EUREX DEUTSCHLAND	Yes	
Deutsche Boerse	EUROPEAN ENERGY EXCHANGE	Yes	
Deutsche Boerse	Malta Stock Exchange	Yes	
Deutsche Boerse	BULGARIAN STOCK EXCHANGE - SOFIA JSC	Yes	
Euronext	EURONEXT PARIS	Yes	
Euronext	EURONEXT AMSTERDAM	Yes	
Euronext	EURONEXT BRUSSELS	Yes	
Euronext	EURONEXT LISBON	Yes	
Euronext	EURONEXT DUBLIN	Yes	
Euronext	EURONEXT COM - COMMODITIES FUTURES AND OPTIONS	Yes	
Euronext	EURONEXT BRUSSELS DERIVATIVES	Yes	
Euronext	EURONEXT IRF - INTEREST RATE FUTURE AND OPTIONS	Yes	
Euronext	EURONEXT EQF, EQUITIES AND INDICES DERIVATIVES	Yes	
ICE Data Services	ICE Futures Europe	No	Financial Conduct Authority (FCA)
ICE Data Services	ICE Endex	No	Netherlands Authority for the Financial Markets (AFM)
London Metal Exchange	London Metal Exchange	Yes	
London Stock Exchange	LONDON STOCK EXCHANGE - REGULATED MARKET	Yes	
London Stock Exchange	Borsa Italiana	Yes	
MTS Markets	MTS Markets	No	Commissione Nazionale per le Società e la Borsa (CONSOB)
Nasdaq OMX	Stockholm	Yes	
Nasdaq OMX	Copenhagen	Yes	
Nasdaq OMX	Helsinki	Yes	
Nasdaq OMX	Iceland	Yes	
Nasdaq OMX	Riga	Yes	
Nasdaq OMX	Tallinn	Yes	
Nasdaq OMX	Vilnius	Yes	
Oslo Bors	Oslo Bors	Yes	
Oslo Bors	Nordic ABM	Yes	
Six Swiss Exchange	SWX EUROPE LIMITED	Yes	
Warsaw Stock Exchange	WARSAW STOCK EXCHANGE	Yes	
Wiener Boerse	WIENER BOERSE AG AMTLICHER HANDEL (OFFICIAL MARKET)	Yes	
Wiener Boerse	PRAGUE STOCK EXCHANGE	Yes	
Wiener Boerse	LJUBLJANA STOCK EXCHANGE OFFICIAL MARKET	Yes	
Wiener Boerse	ZAGREB STOCK EXCHANGE	Yes	

Figure 30

Some TVs have offered "Per User" Unit of Count UoC as prescribed by MIFID II, but **added a premium on fees for users** who would like to take advantage of this option, as set out below

- Nasdaq Nordic +0%
- Six Swiss Exchange +0%
- Deutsche Boerse +10%
- Wiener Boerse +14%
- London Stock Exchange +15%
  (+ 15% as of January 2021, was 0% prior to January 2021)
- Borsa Italiana +15%
  (+ 15% as of January 2021, was 0% prior to January 2021)
- Euronext +15%
- BME +20%

In IPUG's view, **adding a premium on fees, goes against MIFID II**, because the cost associated with core market data fees should be in line with the cost of producing and disseminating the data.

Currently IPUG Members see different types of unit of count across RTVs:

- Multiple instances (Per Instance - Max Count): Toronto Stock Exchange,
- Single vendor netting (Per User, Per Source – Single Vendor Netting SVN), example: Johannesburg Stock Exchange
- Multi-Vendor Netting MVN (Per User): Deutsche Boerse

Definitions of Unit of Count UoC are not always clear in the Data and Price Policies or an y of the Addendum and Schedules either. They are more often than not open to interpretation. IPUG Members believe that fair Unit of Count UoC is per user or per user, per source. It is not fair and reasonable to charge max count, as often multiple number of instances for a user is associated with the technical set up with no additional value for a user.

Note: Different fees for different type of use. One IPUG Member previously approached ICE Futures Europe, which is regulated by MIFID II and requested a clarification on why the TV does not offer a "Per User" Unit of Count UoC.
The reason given for this is: charges on a basis that is consistent with the definition of "Per User basis" set out in Article 9 of MiFID II ("according to the use made by the individual end-users of the market data"). Consequently, IPUG wrote to the National Competent Authority NCA (the FCA in this case) asking for an assessment as to whether ICE Futures Europe Unit of Count UoC policy adheres to Reasonable Commercial Basis RCB. The FCA replied via a written statement that they could not make a ruling and would need more information and would need to receive more requests for assessment. IPUG hopes that information provided in this IOSCO Consultation response will help other NCA's to make an assessment on this issue and any similar cases to this.

Note: Confusion around professional vs non-professional users. IPUG members expressed concerns around definitions of professional and non-professional users,

that are not standard across TVs and often may be difficult to interpret or comply with.

Note: Multiple fees for the same application. IPUG members have become increasingly concerned that TVs charge multiple fees for the same application. For example: according to the Nasdaq Nordic policy Systematic Internaliser application may be charged "trading platform fees" and "derived data fees". IPUG Members do not think it is *"fair and reasonable"* to charge two different usage fees for the same application. If an IPUG Member's IT system is configured differently so that multiple applications are used for the same overall purpose, the fees paid in respect of applications can drastically increase as a result.

Another example could be an internal risk & P&L application, which would fall in **"Other application usage"** Non-Display category, in respect of which display fees may additionally apply. The dreaded **"Other"** Schedule is back here again!

IPUG members believe that display application should not be liable for Non-Display Usage NDU licences, because one application should not be double charged for the same usage.

Some of the TVs policies are blatantly opened for interpretation and very difficult to comply with.

For example, Euronext has different types of Non-Display Usage NDU fees:

• Enterprise

• The Non-Display Restricted – Premium Fee applies to the Contracting Party and solely allows for Restricted - Premium Non-Display Use and, in addition, any (unlimited) Managed Non-Display Use of Information. Restricted – Premium Non-Display Use means where the Contracting Party and its Affiliates together have entitled a maximum sum of 50 Devices to have access to the relevant Information Product and enabling such Devices to engage in the relevant category of Non-Display Use at any time during the relevant calendar month.

Note: Whenever a Device has the ability to access the relevant Information Product multiple times simultaneously (i.e. multiple instances entitled per Access ID, also referred to as max count higher than one), each instance should be counted as a Device. The Non-Display Restricted – Basic Fee applies to the Contracting Party and solely allows for Restricted - Basic Non-Display Use and, in addition, any (unlimited) Managed Non-Display Use of Information.

• Restricted - Basic Non-Display Use means where the Contracting Party and its Affiliates together have entitled a maximum sum of 10 Devices to have access to the relevant Information Product and enabling such Devices to engage in the relevant category of Non-Display Use at any time during the relevant calendar month. Note, whenever a Device has the ability to access the relevant Information Product multiple times simultaneously (i.e. multiple instances entitled per Access ID, also referred to as max count higher than one), each instance should be counted as a Device." Link to the policy: https://connect2.euronext.com/data/market-data-agreements

As detailed above, the definition of "Device'' is vague and not practical. IPUG Members

found it difficult to comply with the "Per Device" policy and some members have been forced to select more expensive enterprise licence instead.

The impact on IPUG members includes increased cost of the data and increased cost of administration, due to lack of clarity. Managing data inventories is a significant cost and the taxonomy of different licensing regimes makes this activity very difficult, with considerable manual input required.

Despite a through search of the internet, no _Dummies guide of market data displacement practices_ has ever been published as there is no intention of any RDP or TV to publicly detail all its Data & Price Policies as IOSCO can identify numerous times across this Consultation document.

The usual reply from TVs sales representatives: Quote _"there is an official, but not public, commercial policy defined to properly meet our specific client's needs",_ when challenged by clients why the "Real Time" Data & Price Policy does not include any of the Benchmarks and Fixings instruments (called Index and Fixings before the 2018 Benchmark Regulation BMR).

Clients easily identify TVs as the biggest promoters of such discriminatory practices with the likes of LSEG with their FTSE Benchmark, DBAG with their DAX, STOXX, Benchmarks or similar TVs in the US and APAC. Under the false pretext that the two information services businesses belong to the same holding company / same Legal Entity Identifier LEI but different division is just another smoke screen.

On a side note, this is exactly the same deceptive practice that is performed by Credit Rating Agencies CRA hosting their Ratings Generation activities (regulated in Europe under CRAR) under one branch of the holding company, placing the creation of data/information services products under another branch name and even as seen most recently, having the commercial rights management under a third branch, allowing for a _multi-barrel weapon of mass licensing_ aimed at the client successively interacting with each branch of the CRA. It goes without saying that "all three affiliates/subsidiaries, have no commercial bearing between each other" …

One will say that MiFID I, with the creation of Multilateral Trading Facilities MTF and RegNMS in the US, have opened the door for the access to an alternative source for the same Listed Equity core market data instrument, but as clients saw with MiFID II, it was only a flash in the pan. As seen already in this IOSCO Consultation Response report, at least in the EU it was another gift from the regulator for TVs– Regulated Markets RM – as is their name since the terminology of exchange has now been replaced for the EU regulator to properly differentiate all market participants.

Consequently RMs (TVs for this IOSCO document) took not time to impose a raft of new licenses as direct result of the MiFID II regulatory requirement to source the data from RM for every MTF – and Systematic Internaliser SI – operator. **As a result, the MTFs end up loaded with arbitrary, unregulated and competition sapping fees from RMs, aimed at making them less competitive in the data access field, when the original goal of the regulation was to introduce the data interchangeability option to all clients.**

Fees Associated with Market Data

> Q11: *How should market data fees be assessed? How could this be implemented in practice? What factors should be considered and how can they be defined or applied?*

TVs and RDP have for a long time been perceived by the financial community with two broad dimensions of commercials.

The first part was a fixed element - in the sense that it was chargeable per client or more often per site. In the case of RDP charges this related most often to data feed site charges based on items in a cache and per application type.

The second part was a variable element – it covered the number of users, terminals instruments, asset classes, and data freshness even if some TV's quoted a fixed charge per site or per client. This situation has greatly changed!

As the core market data from TVs is essential for an orderly financial market consumers of the market data from all TVs, globally, require market data fees and related policies (Data and Price) are charged on a Reasonable Commercial Basis RCB. Determining what constitutes RCB may not be possible for a single entity or single regulator. Therefore, it is incumbent on all participants in the industry to determine formula to define fee ranges and associated policies that are "fair and reasonable".

Factors to consider are:
- the cost of producing and disseminating the data
- a base fee
- an upper limit fee
- the value of share trading for equity exchanges
- the value of derivatives contracts for derivative exchanges
- the relationship between fee increases and the regional and world consumer price index
- the relationship between fee increases and additional data content and/or data quality

What MiFID I allowed to show was the total absence of "reasonability" in the pricing of market data for Listed Equity versus market share as shown on *Figure 17*, *Figure 18*, *Figure 19* and *Figure 20*. As the landscape changed and legacy exchanges (now called Regulated Markets RM as detailed in the MiFID II regulation) did transfer the revenue quest from electronic trading to market data/information services, even if their effective execution market share was being halved due to a regulatory change. We have recently seen this again with the effects of Brexit on the London based venues where massive execution transfer to the EU has in no way dampened LSEG's focus on price increase whilst value offered to the clients blatantly shrinks.

Until a real regulatory action is delivered, the absence of visibility in the value creation chain and resulting ability to set – and increase - the price point at will by TVs and RDPs, then ultimately it is the retail consumers' pockets that are being fleeced due to the multi-layered and invasive type of licensing implemented. This is defined

numerous times in a very simple manner due to the single "Listed Equity" asset covered in this consultation document.

A subsequent and more thorough IOSCO consultation including Benchmarks & Fixings or Credit Rating Agencies CRAs "market data and information services would highlight even more this stepping-stone effect for TVs and RDPs to have a regulated data/information generation legal arm on the one hand, and an "unregulated" market data / information services arm where there is no restraint possible from a regulator on the price setting of these services. The image of *squeeze until they squeal* easily applies here, as the cancellation notice/termination of services by the client is the only way to have the financial service/data licensing fees rocket paced increase halted.

Another factor coming into play on how market data fees should be assessed is with the bitter experience of RDPs manipulation of TVs invoicing exchange rate. To this effect, the ability of RDP's to influence the billing as they select the exchange rate applied to clients.
A quick explanation is required here because due to the geographic and corporate diversity of where these services and feeds emerged from, different products would have been originally offered in different currencies by the Data Source or TV.

However, at a point in time those prices would have been converted into the RDPs preferred billing currencies as Market Data Distributors (MDD). As usual IPUG Members are faced with the contract terminology: *"It is left to the Licensor discretion to set the service invoicing currency."* The point causing issue here with the IPUG Members (clients of RDP's) is that the RDP are setting the exchange rate from the Data Source to their preferred billing currency. As the FX Rate setting period is associated with the contract term, and since those original Data Sources Foreign Exchange conversions do often weaken or strengthen, this creates a resulting invoiced amount not in line with the real FX Rate any market data client can apply using publicly available data;– as a result this significant delta, when negatively impacting the client in most cases, is another source of revenue for the biggest accounts – *previously known under the terminology Focus Group Account FGA with a now many times over acquired RDP that was called Reuters*-. This inconstancy of currency fluctuations is not to be laughed upon when this impacts the duopoly or triumvirate of dominant RDP suppliers depending if the client is a Buy or Sell Side party.
For the global or locally significant clients historical called FGA's with Reuters the ability to be invoiced in the base currency of choice allowed for a flexibility not offered by other dominant RDP's like S&P-IHS-MarkIT, Bloomberg or ICE.

Connected Services

Q12: *Please provide details of other products or services related to market data that are provided by trading venues or other RDPs.*

Other services and products related by TVs & RDPs can be classified in three categories:

       1- Q12a Data
       2- Q12b Instrument Identifiers
       3- Q12c Chat

Q12a For the Data type, RDPs offer:
- Ability to identify and aggregate incremental/ad-hoc Data Sources on behalf of clients
- Normalization of Data Sources to be delivered in the client specific format
- Cleansing to avoid incomplete or incorrect data input in applications
- Processing of modules and custom applications for clients in onsite/private/hybrid cloud environments
- Reference Data: Coming from a wide range of "Price Contributors" the notion itself of "Reference Data" and "Golden Copy" as our peers call it in financial institutions, is a real challenge. This service is often associated with Listed Equities Market Data instruments pricing time series dating from the early 80's when these markets got electronified. This product covers the notion of service as well as product and is supposed to deliver to all clients a timely access to internally and peers sourced data that will be normalized, cleansed, historized to become the ultimate data point of reference. This represents ever changing challenges and sadly not many solutions except for RDPs and TVs which relish the multi layered licensing they can impose at will in this unregulated space of market data.
- Instrument Identifiers proprietary licensing agents as well as National Number Agencies for legacy and digital assets
- Corporate Actions as solutions and data providers. It is a complex process due to the huge volume of corporate events, the variety of sources often linked to each country Tax and Regulatory framework where the information comes from, even when most RDPs, TVs and clients use the ISO 15022 standard to mitigate the collation and integration issues for customers.
- Pricing & Valuations cross asset data (add ICE SEC ruling) as solutions and data providers for Portfolio Management and Independent Price Valuations (IPV) regulatory requirement. Two types of services are delivered:
     * Assessment of *"a value"* of a wide variety of often illiquid instruments using official "Closing Price" sources as well as varied analytics and valuations models for each asset class.
     * Timeliness delivery - not just End Of Day but more and more streaming Intraday - of these resulting datafiles in multiple formats for the clients, from issuers to distributors.
- Regulatory technology (Regtech) solutions in pre and post trade situations to meet KYC, AML, SEC Rule 606, HKG SFC Communications Circular, etc…

- Compliance products to meet internal requirement in various types of risks governance frameworks like: KYP (Know Your Provider), Conduct Risk, Traders Certification/Registration
- Tax compliance between various regime FATCA, Swiss, European countries, Withholding Tax, VAT, OFAC,
- Fund data: Classification structure including Mutual Funds, ETFs, cross-border investors checks. The services also offer monitoring due to the ever-changing nature of these instruments.

The format users receive historical data is via:
- API Interfaces
- Rest API
- Java Language API
- Web user interfaces with Excel Add-in type export function

RDP often show creativeness when it comes to taking advantage of their dominant contractual position as previously described by generating ancillary licenses related to market data that are provided by TVs.

As of MiFID I, the dominant group of TVs forcefully enforced a requirement for clients (often called *subscribers*) to satisfy three elements in the relationship so that the Listed Equity feed distribution service remains active:

- <u>Clients have to put in place a Direct Contract with TVs.</u>
    - This step has since MiFID I been associated with the introduction of "<u>Click Through</u>" execution (subscriber has to go on the TVs website with no ability to download pdf/doc version of the agreement for a proper review the contract terms beforehand and has to "click" on each page/chapter/section (depending on the TV) on a button to approve all 50+ pages of Terms & Conditions (Data Policy & Price Policy as previously described). For some TV a request has to be directly placed with an sales representative to be supplied with the Data Policy & Price Policy for such documents to be made available as distinct items.

- <u>Clients have to deliver a direct reporting of their access/usage on a monthly basis.</u>
    - Subscribers have to perform this in line with each TV's Market Data Policy -No two TVs have the same Data and Price Policy in the whole world!-, associated Unit of Count (UoC), and all the incremental (non-contractual) documents forced upon the clients like the DUD/UOSS, also described in this IOSCO Consultation Question 6.
    - One must note that TVs have also introduced delinquency pecuniary penalties where a set fee ($1.500 up $5.000 per month) is billed in case of lateness in the reporting for each account. This does not cover the accuracy of the Listed Equities access, but the timeliness of the administrative workload imposed on the subscribers. This is a fine on the smaller and unexperienced market data administration/invoicing teams in Buy & Sell Side clients, whereas Tier 1/2 firms have outsourced this repetitive step to

Inventory Management Service providers (TRG/MDSL) which often have API developed to this effect for 100+ TVs globally.

- <u>Clients have to pay the TVs direct.</u>
    - Subscribers do not pay the RDP which in turn pay the TV for the biggest TVs. The TVs request all payments to go direct to them according to the updated Data Policy terms. This create frictions as a number of RDP does implement a reporting and payment a month/quarter *in advance* whereas the TVs do expect a reporting and payment a month *in arrears*. All subscribers are caught in this illogical, administration heavy and financially unbalancing process with no recourse.

On the back of the above process – imposed to subscribers only – RDPs decided, similarly around MiFID I to create another portfolio of licensable charges called <u>Administration Mark-Up</u> (AMU) to compensate for the monetary inflows they were not seeing anymore, as they were receiving the TVs subscriber fees, putting them on their bank accounts, and subsequently paying them to TVs.

This is another ancillary source of contractual terms to abide by with confusing calculations. The main impact is not only the layering of these incremental licensed practice, it is the unavoidable aspect of it, like leeches when crossing a swamp. One will easily note that as more and more RDPs have caught up with this AMU practice thanks to consultancies like those previously mentioned, slapping such charges on top of TVs fees mathematically increases the AMU invoice, especially when the AMU Rate Card applied is a percentage of the original TVs fee…

As subscribers have too often seen, these AMU also seem to be increasing with time not only in size but also in type as the client data usage is also growing thanks to the creativeness of RDPs.

Typically, these AMUs vary between apparently straight forward percentage mark-up through to combinations of mark-up and above-mentioned abusive currency conversions rates. A range is from an unjustifiable 5% to more than 15% when the different layers of licensing, per user, per application, per site/location, etc…

In the specific cases of currency exchange rate *manipulation*, at least for the biggest RDP, such mark-up has been seen up to and in excess of 30%. These high percentages are due to currency fluctuations versus the foreign exchange conversion rates.

Q12b Instrument Identifiers
TVs also offer Instrument Identifiers and its associated commercial licensing.
For the example of LSEG, it licenses the SEDOL in its present form since 2004. There has been successive alterations to the Price Policy but the most recent conjunction of Data and Price "updates" have created discontent and concerns in the IPUG Member community. However, with industry support groups, such as IPUG, clients have come together to provide valuable and consistent feedback which has been successfully

used to engage Identifier vendors to consider adjusting or delaying their updated Pricing Policy implementation date.

IPUG Members appreciate when vendors engage to achieve practical and workable policies, however, still need regulatory help to achieve fair and reasonable fees when the price inelasticity of demand is high.

For example, LSEG SEDOL, the suggested policy charges was adjusted to remove the Per Entity charges, which IPUG members appreciated, but nevertheless the fees for IPUG members still went up.

Date	Sedol Masterfile (publicly available)
Jan 2018 - Dec 2018 £32,302.44	£32,302.44
Jan 2019 - Dec 2019 £32,302.44	£32,302.44
Jan 2020 - Dec 2020	£33,576.00
As of Jan 2022, Potentially	£66,000.00

LSEG SEDOL introduced a new pricing model in 2019. The impact will be a 96% cost increase from 2020 to 2022 according to 'SEDOL Masterfile Pricing and Policy 2021 Guidelines' https://www.lseg.com/markets-products-and-services/post-trade-services/unavista/unavista-solutions/data-solutions/sedol/documentation for more detail.

Some IPUG members expressed concerns that LSEG will not allow a business to extract only what is needed from their Masterfile. Instead, if it is received and manipulated in anyway, it is chargeable with no exceptions.

Q12c Chat

RDPs like Bloomberg supply terminals, Data and Analytics across the industry. The duopoly LSEG/Refinitiv Bloomberg share the top 2 slots even if over the last 10 years Bloomberg has become the dominant supplier in the market. Although Bloomberg are referred to as a 'Market Data Vendor' by many, they actually consider themselves to be a Software house – a provider of solutions for the financial markets.

The historical dominance of Bloomberg with its chat system and the resultant cost of the not so 'Open Messaging/IB Chat' environment is not new but even if ICE, LSEG/Refinitiv, Factset have all their own "similar" chat system, Bloomberg dominates this field and has taken advantage of this by not only using it to gather "screen scrapped" data points but also monetize historization services of the chat traffic for regulatory purpose.

The History relating to the Bloomberg dominant position of today, leads back to a time when online Messaging was not seen a critical tool for communication. However, Bloomberg includes the tool within their terminal and offers the chat function along with other services bundled into the product at one price for all.

IPUG Members accepted this structure and at the time, the technology was new: it was seemingly inexpensive, and it 'did what it said on the can' – one stop shop - for

all trading functions. In addition to the above, the Financial Markets were structured differently and although the dominant position of Bloomberg continued to exist, which caused angst for Market Data Managers, the Front Office business units within Investment Banks, continued to use the terminals to communicate with clients in addition to using in over and above less inexpensive internal communication tools as it bought kudos to have one of these terminals on your desk. The Market has now changed – technology has improved with the appearance of Symphony supported by numerous financial institutions, and the way Investment Banks communicate with their clients and internally has come under intense cost and regulatory scrutiny.

For the majority of investment banks costs for Market Data sit in the top 3 of their spend for trading individuals. The Chat/Messaging is bundled into the terminal at a cost due to the newly offered chargeable services. Bloomberg chat is non interoperable with other chat systems even if small attempts have been made by Bloomberg to counter this set up by basic links with AOL. Bloomberg is in a major dominant position with the chat system, as it would not entertain the idea to unbundle the product and make it available to banks to link with other highly invested collaboration tools.

Some IPUG Member opposition to Bloomberg providing access to +5 year old records at a cost, part of "Vault" service, on the basis that Bloomberg clients are under regulatory obligation to maintain records for 10 years and Bloomberg should therefore provide copies of records as part of terminal fees. Other IPUG Members download records on daily basis and do not consider charging for +5-year records to be an issue Referring to use of terminals for Bloomberg chat, some Members considered that costs of doing so were disproportionate to required use and advocated that chat messaging service be unbundled from Bloomberg terminals.

Most IPUG Members think it is unlikely that Bloomberg could be persuaded to unbundle their product. The alternative offering is present and since the Goldman Sachs and JPMorgan issues, publicly available in the press, the issue of confidentiality has triggered a decision by numerous firms as to deciding which chat system, ICE, LSEG/Refinitiv, Factset or Bloomberg was to be considered secure.

As a result, most chat platforms trigger the question of the unbundling and interoperability with other chat systems.

Typically some IPUG Members are asking if consumers will one day be able to purchase the chat functionality independently of other services from ICE, Factset, LSEG/Refinitiv, Symphony or Bloomberg or if the technological advances will render it obsolete for the majority of Financial Institutions users?

Q13: *Please share your views on the fees for connected services that are necessary to access essential market data. If concerns are raised, please identify mechanisms to address them.*

The fees for connected services that are necessary to access essential market data are complex, falling under numerous standards for definition and valuation, and the ever present changing regulatory landscape.

One of the main points in the "connected Services" is the depth of fees loaded on the users to access core market data.

The first point to note is as shown in the SIFMA report for the SEC already detailed in Question 9, the lower the latency the higher the cost of data.
The assumption is the same as detailed in the COSSIOM report on the Deutsche Boerse DBAG fees review.

Figure 31 gives a good view of the latency level we deal with for the five main types of environments to access core market data.
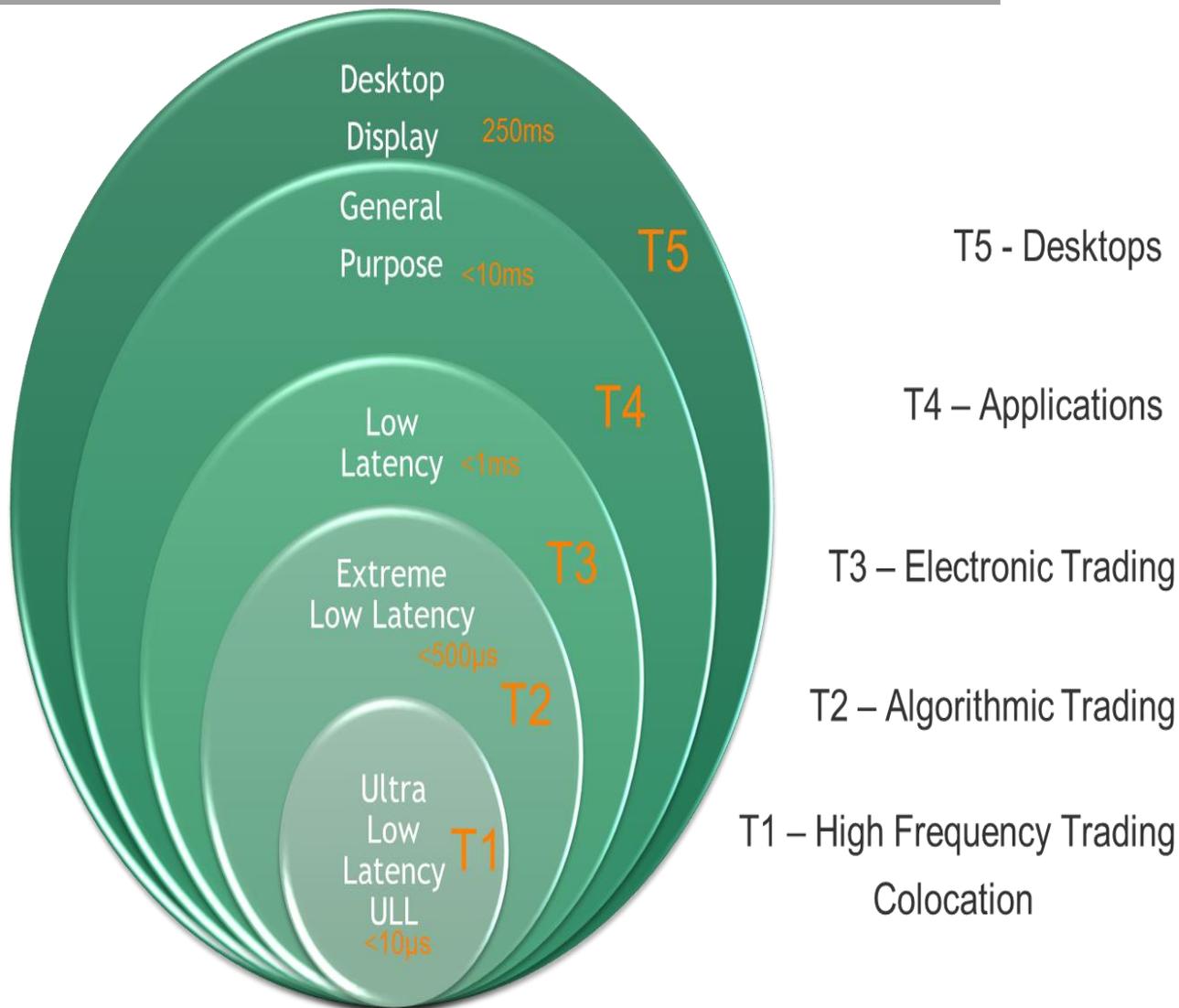
Figure 31

*1 second = 1 000 milisecond = 1 000 000 microsecond = 1 000 000 000 nanosecond = 1 000 000 000 000 picosecond
 1 sec Human = 1 milisecond Applications= 1 microsecond Algo Trading = 1 nano colocation = 1 pico Timestamping

The example below in *Figure 32* shows a succession of types of licenses that need to be contracted to have access to core market data.
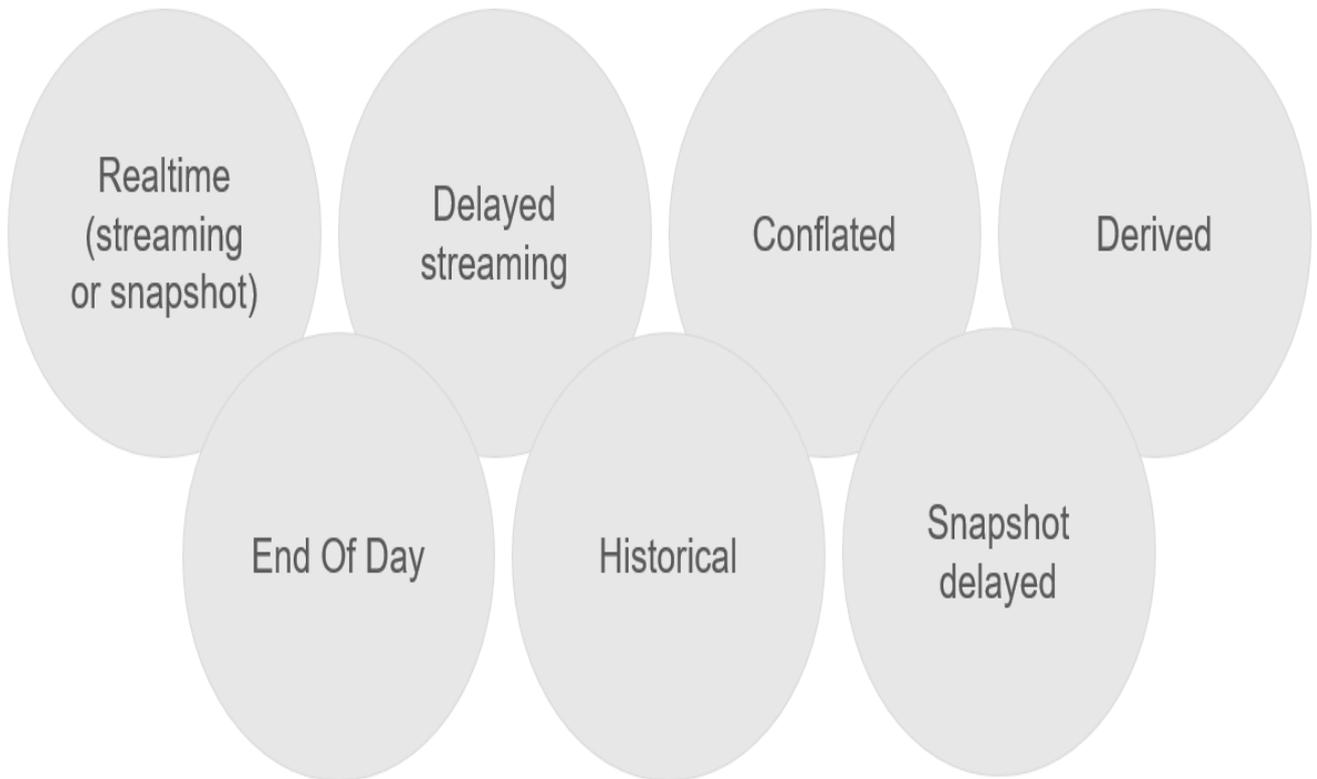
Figure 32 - **Sample type of core market data**

These types of core market data are all subject to the initial layer of Data Schedule in the PP Layer 1.

Figure 33 - **Sample of type of core market data usage**

These types of core market data <u>usage</u> are all subject to the second layer of Data Schedule in the PP Layer 2.
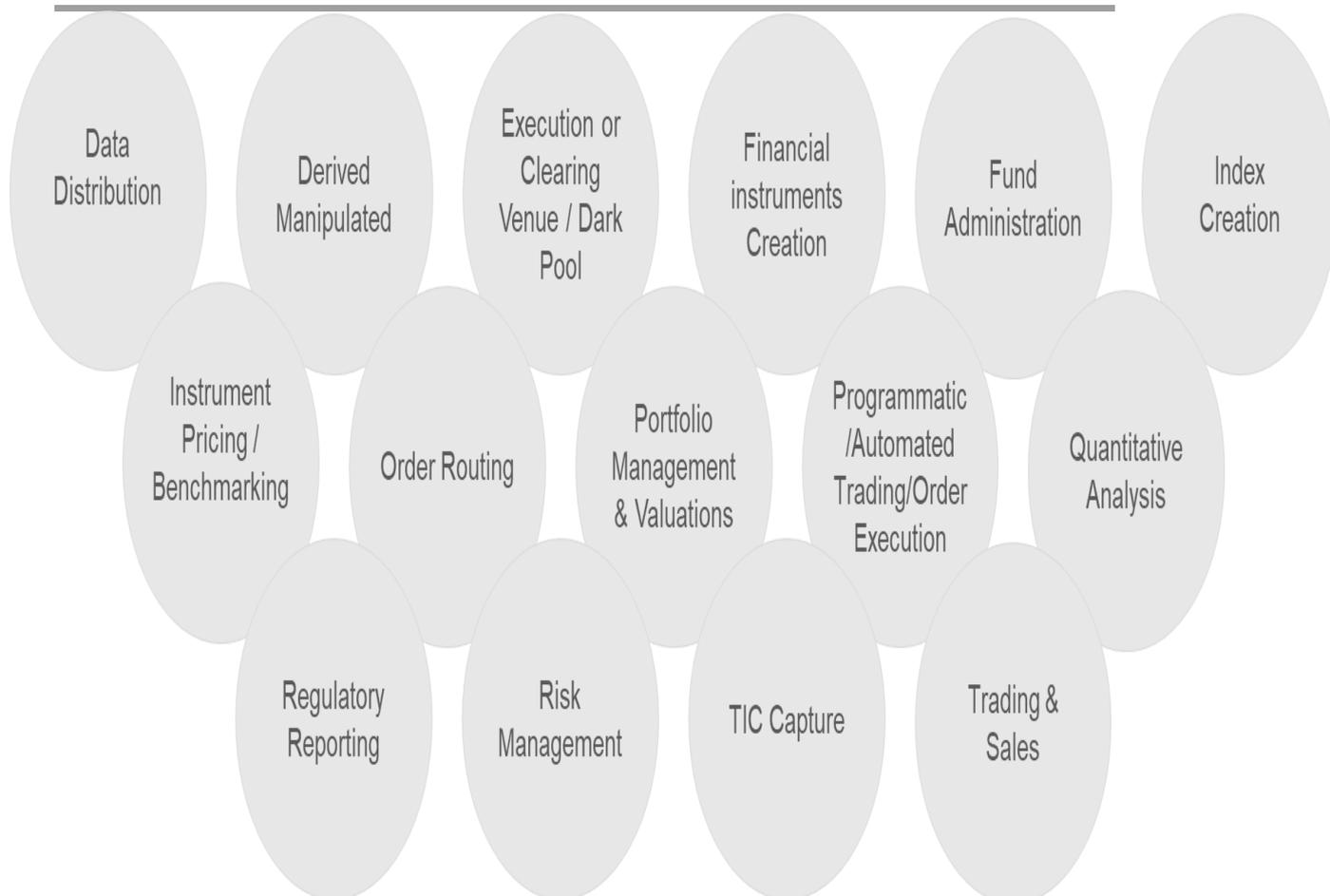
Figure 34 - **Sample of TVs licensing per type of core market data usage**

This sample of type of core market data <u>usage</u> licenses are all subject to the third layer of Data Schedule in the PP Layer 3

The point to remember from Question 13 is that for the access to core market data, other than the service previously detailed (ORS, OMS, Colocation, etc…) it is the access to information which is the highest concern of all for IPUG Members.

Data Consolidation

> **Q14:** *Please provide your view on the need for consolidated data where there are securities trading on multiple trading venues. What should be the primary objectives of consolidated data and what outcomes should it lead to? How should these objectives and outcomes inform the nature of the consolidated data made available?*

IPUG Members follow the below defined steps ESMA recommends implementing on the back of the 2019 and 2020 Consolidated Data (CTP) Consultations:

• *add a mandate in the Level 1 text empowering ESMA to develop draft Technical Standards specifying the content, format and terminology of the RCB information that trading venues, APAs, CTPs and SIs have to provide according to Article 13 of MiFIR. Such an empowerment would allow to transform the supervisory guidance outlined above into binding Union law, thereby further strengthening the harmonized and consistent application of the RCB provisions.*

• *move the provision to provide market data on the basis of costs (Article 85 of CDR 2017/565 and Article 7 of CDR 2017/567) to the Level 1 text. Such a move would allow to further specify this general principle via Level 2 measures.*

• *add a requirement in the Level 1 text for trading venues, APAs, SIs and CTPs to share information on the actual costs for producing and disseminating market data as well as on the margins included with CAs and ESMA combined with an empowerment to develop L2 measures specifying the frequency, content and format of such information. Such a requirement should not be perceived as a measure to introduce price controls, but aims at enabling CAs (including ESMA in its future role as CA for APAs and CTPs) to better understand the pricing of market data and to assess whether market data is provided on an RCB;*

- *delete Article 86(2) of CDR 2017/565 and Article 8(2) of CDR 2017/567 allowing trading venues, APAs, CTPs and SIs to charge for market data proportionate to the value the market data represents to users. While ESMA considers that trading venues, APAs, CTPs and SIs may establish different categories of users as per Article 86(1) of CDR 2017/565 and Article 8(1) of CDR 2017/567, it appears that the second paragraph of these Articles undermines the main principle that market data should be priced-based on the costs for producing and disseminating the information. This is without prejudice to firms setting prices depending on the type of clients as long as this complies with the general principle of providing the data based on the costs for producing and disseminating the information.*

IPUG members believe that the recommendation from ESMA *"delete Article 86(2) of CDR 2017/565 and Article 8(2) of CDR 2017/567 allowing trading venues, APAs, CTPs and SIs to charge for market data proportionate to the value the market data represents to users."* will be a significant step in constraining data pricing, because it

constrains the ability to create market data commercial products that charged different fee levels for different type of use, particularly when the price inelasticity of demand for this new market data commercial products is high.

ESMA also recommends:

In view of the feedback received, ESMA concludes that the MiFID II/MiFIR objective of making data available free of charge 15 minutes after publication by the trading venues and APAs has not been achieved so far although some improvements can be noted. It appears that the standard practice implemented by many trading venues and APAs is to comply only with the provision as concerns retail investors, but not allowing commercial users to benefit from delayed data free of charge.
ESMA recalls that the provision to apply data free of charge 15 minutes after publication in Article 13 of MiFIR and Articles 64 and 65 of MiFID II does not distinguish between different types of users. Hence, the obligations cover both retail investors and also professional investors and any user should be able to access and use delayed data free of charge.

IPUG members are supportive in the ESMA assessment to make delayed data free of charge, as there is no technical control in place to prevent users from accessing this data. This data is also freely available via internet and IPUG members should not be charged any additional fees for the use of this data.

<div style="border:1px solid blue">

Q15: *Is a consolidated data feed the most efficient mechanism to achieve these objectives and outcomes? If not, what are the alternatives that could help achieve these objectives and outcomes? How do these alternatives affect the cost of and access to market data? How can they be addressed?*

</div>

As partially mentioned in Q14, a CTP will not solve the issue of the problems with high and increasing market data access cost to core market data without strong mandate like in the US.
A CTP is required but the existing commercial forces in place make it a challenge for its definition and implementation.

Conclusion

<div style="border:1px solid blue">

Q16: *Please describe any issues or concerns not raised by IOSCO in this Consultation Paper and describe any suggested mechanisms to address them.*

</div>

IPUG has the following points to cover in Question 16.
    Q16a Multiplication of DUD/UOSS
    Q16b IPR on identifiers and associated contract by coercion

Q16a DUD & UOSS as shown on *Figure 35* is requiring significant attention from all IPUG Members due to its drastic consequences on the confidentiality and competitive advantage so far only reserved to the likes of S&P GCS or Bloomberg.
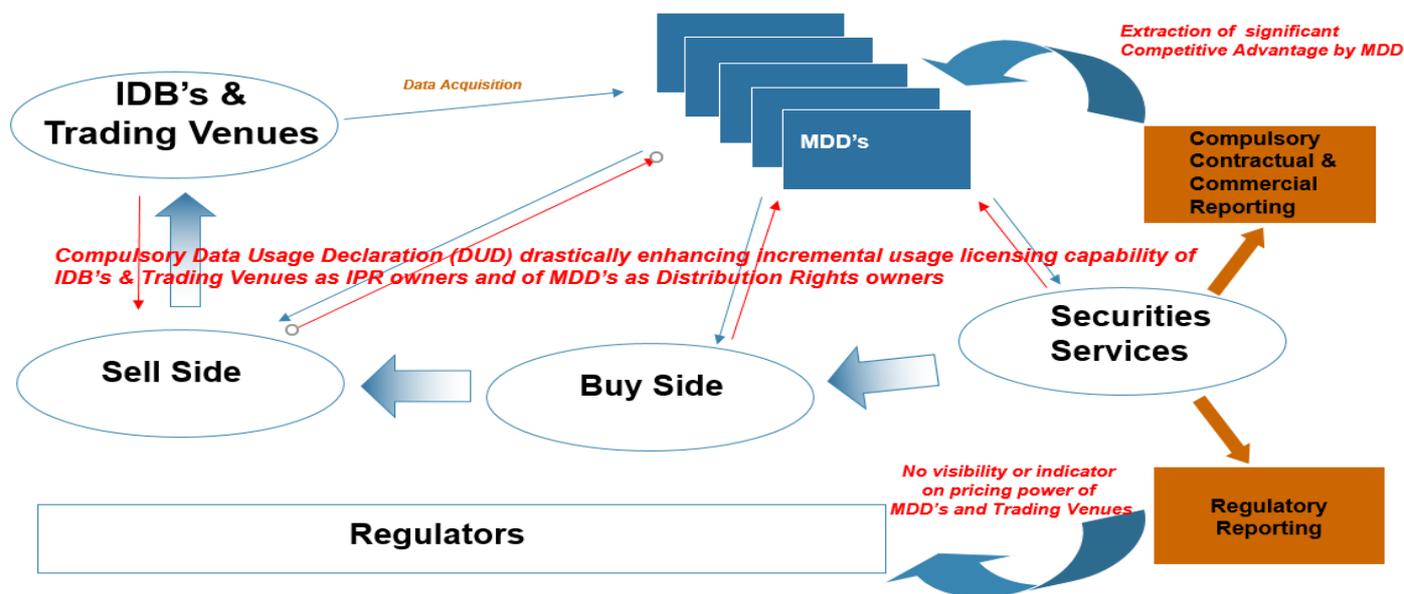

Figure 35

Q16b IPR on identifiers and financial industry standards is also a major issue.
The different RDPs are working hard to insert themselves in standard bodies involved in leading roles in national / domestic and international organisations/associations ISO TC68 / SC8 etc… IPUG Members feels tha their goal is to foster the adoption of standards where their own datasets is delivered using this specific – licenseable – standards.

The massive marketing efforts to "educate" the regulatory community and C-Level industry leaders is all too obvious especially when communication stream is consistent towards a – until recently – rather prescriptive role in the choice of Benchmarks, Data points and their corresponding identifiers.
The task of the RDP's is to make it as palatable as possible for the prescriptive forces (Asset /Investment Management). Thereafter it is an easy task to pile on the different licenses and fees on the downstream financial industry players like Dealers on the one hand and Fund Admin/Securities Services on the other.

Such control of the instrument identifiers market allows a blanket implementation of the commercial terms, significant competitive advantage gained thanks to the visibility gifted on competitor's usage via the previously detailed Data Usage Declaration (DUD) and Usage Of Service Statement (UOSS) and deep insertion in the Straight Through Processing STP of the trade life cycle due the increased automation of activities. In the world of identifiers, humans are a hurdle to the downstream licensing whereas

application allow for a massively industrialized automated usage tracking amplifying the revenue stream extraction.

In a similar manner, the bundling of the CUSIP/US ISIN identifiers with underlying ratings provisions is a major concern and under investigation by EC Antitrust Commission. The issue was addressed separately by EFAMA with the EC Commission under case Comp/D2/39592 based on prohibited mapping of the (now called) LSEG/Refinitiv RICs with identifiers of alternative providers. Please also note that a similar claim was submitted in the US.

It is worth mentioning that RDPs (such as ABA/CSB/S&P) also try to enforce that *bank(s) should "agree and acknowledge their IP and other rights" of CUSIP identifiers* in credit rating contracts (normally not needed for Listed Equities), which recently was even enlarged to CUSIP based identifiers meaning US ISIN, *flanked by unlimited liability in case of breach of contract*. In case of non-acceptance of such contractual provisions, **RDPs interrupt data delivery including third party coercion through RDPs like Bloomberg which typically perform electronic execution on behalf of clients**.

Now Financial Institutions have quickly seen the interest from a number of TVs and RDPs to jump early on the bandwagon of Digital Assets. The marketing efforts to standardize such digital tokens as Ethereum, Bitcoin and similar.

One will see the efforts made by RDPs to charge and set up new licensing requirement for the distribution and access to Legal Entity Identifiers (LEI) ISO 17442, Market Identifier Code (MIC) ISO 10383, Financial Instrument Short Names (FISN) ISO 18774, Classification of Financial Instruments (CFI) ISO 10962, International Securities Identification Number (ISIN) ISO 6166, Currency ISO 4127, and Digital Token Identifiers (DTI).