

SIX Reference Market / Reference Price Consultation

Zurich, 2nd November 2010

1.1. Introduction

Following the SIX Swiss Exchange and SIX Exfeed press release of 11 October 2010, SIX Swiss Exchange is pleased to present its consultation on a number of issues relating to Reference Markets and Reference Prices. In this paper a number of issues are debated and a series of consultation questions are raised, embedded in the relevant section within the paper.

1.2. Scope

Following discussions with various stakeholders in advance of issuing this paper, SIX Swiss Exchange is specifically seeking advice on the principles of real-time reference data pricing and categorization as well as clarification of what is understood by the term "Reference Market" for the purposes of MiFID.

The issues raised can broadly be split into two areas:

1. The principles of real-time reference data pricing (section 1.4)

We are seeking advice on the definition, categorization and pricing of the usage of reference data sourced from home markets by alternative venues and others. For this topic you may want to involve your market data specialists. As SIX Exfeed has deferred the implementation of the fees for such data usage, we strive to come to a conclusion by mid December 2010 in order to be able to instruct data vendors and market data consumers accordingly.

2. The meaning of reference markets and reference prices in Europe (section 1.5)

As operators of the regulated market for Swiss securities, which are widely traded by EU market participants, SIX Swiss Exchange seeks acknowledgement as the "Reference Market" for these securities, irrespective of the fact that Switzerland is outside the EU. SIX Swiss Exchange also looks to clarify the meaning of "Reference Prices" with regulators, both domestically and within the EU in order to validate the current rules and their cross-border implications and the impacts these have on investors and issuers.

Today all stakeholders rely on Home Markets¹, as the Reference Market and as the provider of Reference Prices. These stakeholders include issuers and all types of investors, in both the underlying and in derivative and index products. Even stakeholders that derive alternative Reference Prices still use the prices of the Home Market as a benchmark. This reliance is not just for legacy reasons, there are other critical drivers:

1. Home Markets have a direct relationship with Governments, Regulators, and Issuers for the monitoring of continuing obligations and many disseminate corporate action data;
2. Home Markets also monitor and determine the quality of information in the public domain to ensure adherence to relevant rules to provide transparent disclosure of issuer data and may initiate market halts in order to maintain fairness and orderliness;
3. Home Markets are nearly always Regulated Markets², have an important obligation to function regularly, which is not a definitive requirement for MTFs³ or Systematic Internalisers⁴. This enables MTFs to operate with different levels of resilience, with different economic models.
4. Home Markets are custodians of a market place which benefits stakeholders including a wider public interest.
5. Home Markets are the benchmark for risk management purposes.

1.3. Key questions for this consultation

The over-riding key questions for this consultation is whether other venues such as Multi-lateral Trading Facilities and OTC Bi-Lateral trading facilities that operate dark pools should be obliged to use the Home Market Reference Prices or free to use alternative price sources. The options are:

1. The Reference Price sourced only from the Home Market, i.e. the listing venue with the highest volume (the so called Reference Market); or
2. Free choice of Reference Price where they select any Reference Price, and do not disclose the source. This could be the same venues' lit book, or a consolidated EBBO from a chosen source, or an internal price for bi-lateral OTC markets - essentially "any price goes" (as long as it is "reliable and widely available"); or
3. Free choice of Reference Price where there is disclosure of the source, together with a flag highlighting that the source is not the Home Market and the delta between the source and the Home Market.

¹ The home market (defined for the purposes of this consultation) is the market where new issues of securities take place, as distinguished from their secondary markets. The term also applies to government securities and to opening option and futures contract sales. A Home Market also has a legal relationship with issuers, who enter into an agreement with the market place, usually an exchange, to comply with their "Continuing Obligations".

² In MiFID Regulated Markets are defined as a multilateral system operated and/or managed by a market operator, which brings together or facilitates the bringing together of multiple third-party buying and selling interest in financial instruments—in the systems and in accordance with its non-discretionary rules in a way that results in a contract, in respect of the financial instruments admitted to trading under its rules and/or systems, and which is authorised and functions regularly and in accordance with the provisions of Title III.

³ An MTF is defined as a multilateral system, operated by an investment firm or a market operator, which brings together multiple third-party buying and selling interests in financial instruments in the system and in accordance with non-discretionary rules in a way that results in a contract in accordance with the provisions of Title II.

⁴ MiFID defines a Systematic Internaliser as an investment firm which, on an organised, frequent and systematic basis, deals on own account by executing client orders outside a Regulated Market or an MTF.

To achieve a sound and objective answer to these questions, SIX Swiss Exchange has provided some legal, regulatory and empirical performance data as background. We therefore encourage readers to go through the full document. The detailed consultation questions to each section are included in the relevant sections. We conclude with the higher level questions at the end of the consultation.

1.4. Principles of Real-Time Reference Data Pricing

For the last ten years, SIX Exfeed has charged all real-time market data consumers a fee for the real-time data it supplies irrespective of the technical platform involved. According to the Swiss Stock Exchange Act, SIX Exfeed also has to apply an "equal treatment regime". Based on these statutory provisions, SIX Exfeed has applied this regime in a consistent manner.

Question 1

Conventional market data usage is defined as access by an end-user to information through a display device or devices that are generally dedicated to that user during the period which he/she is accessing the information.

In your view, does the usage of market data by an alternative venue (e.g. in a dark pool) fall under the term "conventional market data usage". If not, how would you describe or categorize this type of information usage?

Question 2

Given the fact that SIX Exfeed has historically charged all real-time market data consumers and has to apply the "equal treatment regime", what, in your view, would be the economic criteria for setting the fee applying to alternative venues?

Question 3

Should the fees defined based on the criteria of Question 2, in your view, be applied only to multilateral venues (MTFs, Dark Pools) or also to bilateral venues (BCNs, etc.)?

Question 4

Should Home Markets be required to provide multi-lateral trading facilities with real-time data for free or below costs, thereby subsidising these alternative trading facilities?

1.5. Background on the market place

1.5.1. Legal and Regulatory Oversight

There is a lot of theory surrounding the harmonisation of securities markets (e.g. IOSCO guidelines, inter-regulator MOUs etc) but in practice harmonisation in Europe is not always working at the level of detail that this consultation is examining. Accordingly, this consultation is seeking to fill a gap and provide a basis for industry co-operation moving forward as the market organisers need to find solutions to ensure the long-term integrity and viability, fairness and orderliness of the markets

In terms of the legal and regulatory framework, Swiss securities are listed and admitted to trading on SIX Swiss Exchange. It is important to notice that SIX Swiss Exchange is a Swiss regulated exchange subject to the Swiss Stock Exchange Act and accordingly duly authorised by the Swiss Financial Market Authority (FINMA). It is also important for EU venues as firms investing and trading securities on alternative venues may believe that the securities are being offered with the same level of regulation. However, EU securities are highly regulated while Swiss securities on an EU platform are not properly regulated.

The issuers of securities listed and admitted to trading on SIX Swiss Exchange are regulated by various regulations concerning in particular transparency rules relating to the listing as well as the maintenance of listings on SIX Swiss Exchange. These transparency rules similar to the ones that are provided for in the Transparency and Market Abuse Directives in the EU, ensure in particular transparent information of the market in Switzerland on SIX Swiss Exchange.

The Swiss securities are primary listed and admitted to trading on SIX Swiss Exchange which can be considered as a similar market to the Regulated Markets as defined in MiFID in particular because it is subject to similar regulations as the EU Regulated Markets, although it is not EU regulated.

Accordingly, the key points to note with regard to this consultation are:

- that this market operates in accordance with its non-discretionary rules; and
- functions regularly. In terms of the matter of the Regulated Markets obligation to function regularly SIX Swiss Exchange boasts one of the highest, if not the highest, trading system availability records in Europe. Regularity is also about the quality of supervision and in this respect again SIX Swiss Exchange provides some of the highest market supervision and surveillance standards. All of this enables stakeholders to rely on it as a Reference Market and its Reference Prices, without question.

Only a small number of Swiss securities are also admitted to trading on Regulated Markets (as defined in MiFID) in the EU. All securities constituents of the Swiss Leader Index[®] (SLI[®]) as well as the Swiss Market Index[®] (SMI[®]) are traded on various venues (MTFs) within the EU on an OTC basis. The securities listed and admitted to trading on SIX Swiss Exchange do not appear on the CESR list of MiFID securities since SIX Swiss Exchange is not a Regulated Market in the sense of the EU regulation, in particular of MiFID. It has to be noted therefore that since Swiss securities are not admitted to trading on Regulated Markets in the EU there is no consistent, robust or integrated regulatory oversight of Swiss securities traded on MTFs, Systematic Internalisers or bi-lateral OTC environments within the EU and between the EU and Switzerland.

In terms of the matter of non-discretionary rules, this is further detailed in Recital 6 of MiFID which specifies that non-discretionary rules “set by the system operator means that they [the interests] are brought together under the system’s rules or by means of the system’s protocols or internal operating procedures (including procedures embodied in computer software)” and that they “leave the investment firm operating an MTF with no discretion as to how interests may interact.” A key question for this consultation is whether the lack of discretion should be extended to the source of the reliable and widely available Reference Price.

With regard to the price formation process for dark pools which is pertinent to this consultation, dark pools utilise a number of waivers for pre-trade transparency. Article 18(1) of the Level 2 MIFID Regulations defines the requirements for those waivers. Either the system is operated by a Regulated Market or an MTF and it must use a widely published and generally considered reliable reference price imported from another trading venue for its own price determination or it has to formalise negotiated transactions. The key question here is whether another trading venue, a lit book within the same MTF, the Home Market or a combination such as an EBBO can constitute "another system" for the purposes of the MiFID waiver. Further, if the proposal is to use an EBBO, what are the constituents of such a solution and, in order for it to be reliable, can it reasonably exclude the Home Market.

Question 5

Do you believe that Reference Prices should be solely sourced from Home Markets.

Yes

No

If no please explain

Question 6

On what basis is it acceptable to choose a Reference Price different from the Home Market recognising an entire industry relies on Home Markets?

Please explain Question 7

What characteristics, if any, need to be included in a clearer definition of Reference Prices?

Please explain

Question 8

When is a Reference Price reliable and when is it unreliable?

Please explain

Question 9

In the absence of regulation in the EU which defines a specific Reference Price, should venues have the right to be selective about their choice of Reference Price?

Yes

No

If yes please explain

Question 10

Should a Reference Price include the following features? If so why, and if not, why not?

- Direct link to the Home Market / Issuer for corporate action announcements? (Yes / No)*
- Direct link to the Home Market / Issuer for market halts? (Yes / No)*
- Direct link to Regulated Markets given such venues are required to function regularly? (Yes / No)*
- Direct link to Regulated Markets given the broader public interest and large scale dependence of the national, corporate and financial community e.g. indices, market valuations etc. (Yes / No)*

If no, please explain.

Question 11

Do you believe that there are any benefits of making Reference Prices a competitive matter?

Yes

No

If yes, please explain why?

Question 12

Who will benefit or be disadvantaged from making Reference Prices competitive:

Stakeholders	Benefit	Disadvantage	Reason
Regulators			
Regulated exchanges			
MTFs			
Institutional investors			
Retail investors			
Sell side			
HFTs			
Investors in the underlying			
Users of and investors in index products			
Investors in derivatives (e.g.ETFs, options etc) that use the Reference Prices			
Investors in dark pools that use Reference Prices			
Issuers			

Question 13

What are the risks of sourcing Reference Prices from sources other than Home Markets?

Please explain

1.5.2. Market abuse monitoring

SIX Swiss Exchange as Home Market for Swiss securities takes its responsibility for maintaining fair and orderly markets for the listed securities very seriously. As an organisation it is very favourable to competition⁵ as competition enhances innovation and efficiency; but it sees a need to closely examine competition that compromises the quality, fairness and orderliness of the markets in the securities listed.

In Europe, securities markets have been opened up to competition with the attendant benefits. However SIX Swiss Exchange believes that certain aspects of the market structure do not serve stakeholder interests if opened up to competition. Examples include:

- market surveillance. Market surveillance should be like airline safety, it should not be commercialised and opened up to competition. SIX Swiss Exchange believes market surveillance has to achieve home market fair and orderliness obligations and must not made competitive which would lead to varying service standards especially in the light of market fragmentation;
- ISIN numbering. This needs to stay as a unique national service without competition. In this area, competition would add confusion and create operational and market risk.

SIX Swiss Exchange also believes that Reference Pricing should not be a subject to competition as many derivatives and index products depend on a unique underlying Reference Price. However, it is not seeking to pre-judge the outcome of this consultation

If competition is taken to the extreme it can damage investor protection with serious and wide consequences. SIX Swiss Exchange believes that Reference Price competition actually eases the opportunity for cross venue and cross jurisdictional market abuse remaining undetected.

Question 14

How will investor protection be consistently achieved and effectively monitored if Reference Prices are sourced from multiple venues?

Please explain

Question 15

Should an investor protection regime for an environment where Reference Prices are sourced from multiple venues depend upon the client categorisation and if so how would this operate?

Please explain

⁵ That SIX is striving to support competition is among others evidenced by the facts that SIX is operating a competitive market, is signatory to the Code of Conduct, owns the first inter-operable Clearing House (SIX x-clear), was the first to introduce user choice in clearing providers with its interoperable model, is implementing the measures to harmonise tick sizes in line with our competitors and is constantly increasing the quality of its services.

Question 16

Do you foresee the potential for market abuse through the use of free choice of Reference Prices, such as:

- I. Gaming through arbitrage? Yes / No*
- II. Trading through market halts? Yes / No*
- III. Haircutting price improvement in dark pools using derived synthetic prices based on a gamed underlying? Yes / No*

If no please explain

Question 17

What other market abuse potential do you envisage in an environment with free choice of Reference Prices?

Please explain.

Question 18

How do you achieve Pan European market integrity with free choice of Reference Prices?

Please explain

Question 19

What investor protection disclosure requirements are needed for Reference Prices that are derived from Home Markets compared to other sources? How can this be communicated to end investors recognising fragmentation of transactions?

1.5.3. Empirical evidence

The market place for Swiss listed securities is somewhat different to many of the other markets across Europe and the primary distinguishing characteristics are the quality of the depth of the SIX Swiss Exchange lit book, which brings guaranteed immediacy and reduced market impact, as well as significantly improved execution quality. SIX Swiss Exchange is extremely grateful to its users and shareholders for the continued support of its market place.

Table 1 and Figure 1 below show that in SLI[®] securities the quality of the Home Market is far superior to competitive venues. The spreads are broadly similar across the Home Market and the three leading MTFs, which is a function of tick size harmonisation and algorithmic trading using the Home Market to drive their bids and offers. However, in every other metric the Home Market is superior. Indeed the level of superiority is so high that the Home Market is resilient, and in best execution terms typically outweighs the slightly higher average tariffs charged by SIX Swiss Exchange. This therefore indicates that there would need to be sound reasons not to use the Home Market as a Reference Price.

Table 1 - 2010 Week 39 key trading statistics (Source TAG)

SLI MARKET SHARE & LIQUIDITY ANALYSIS: OVERVIEW WEEK 39		XVTX	CHI-X	BATS	TRQX
Post trade	TURNOVER IN MIO CHF	15'247	4'086	1'796	854
	AVERAGE TRADE SIZE IN CHF	28'371	14'045	12'922	11'526
	MARKET SHARE	67.92%	18.20%	8.00%	3.81%
Pre trade	EBBO	75.42%	63.66%	53.20%	51.70%
	EBBO SIZE	46.59%	5.28%	1.61%	0.55%
	AVG SPREAD IN BPS	9.45	9.81	9.63	10.93
	AVG EXECUTABLE SIZE (in CHF) AT BEST SPREAD	712'195	363'763	264'778	127'254

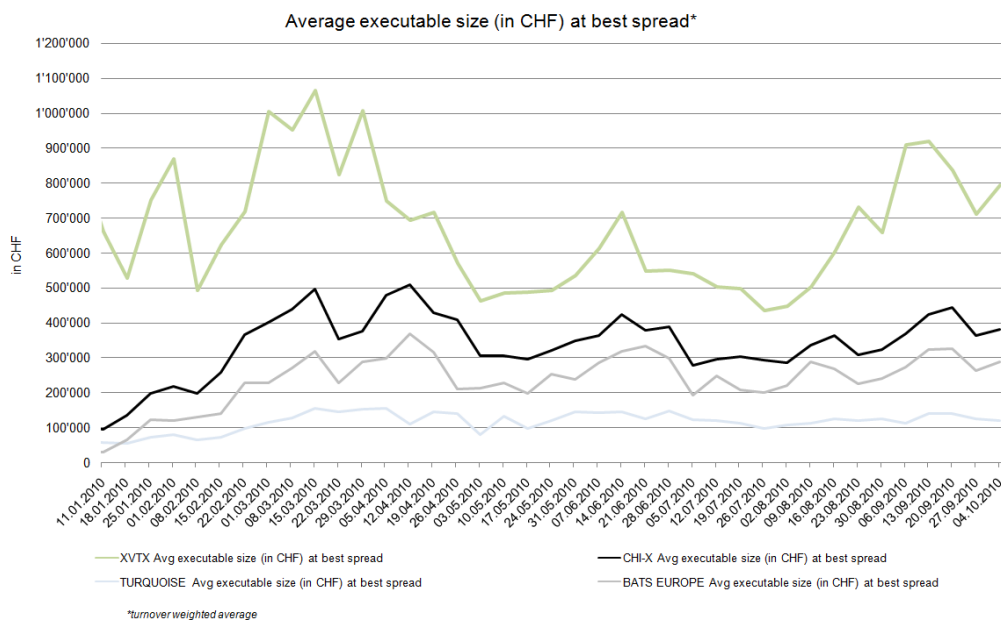


Figure 1 - Average executable size (in CHF) at best spread (Source: TAG)

If the average lit trade size figures are analysed further comparing SIX Swiss Exchange with Chi-X and BATS then Figure 2 below shows consistently the volumes traded on SIX Swiss Exchange are considerably superior to other venues. Better volumes mean better price formation, better depth and guaranteed immediacy. It is this better price formation that is being used by third party dark pools and algos for the purposes of price formation elsewhere.

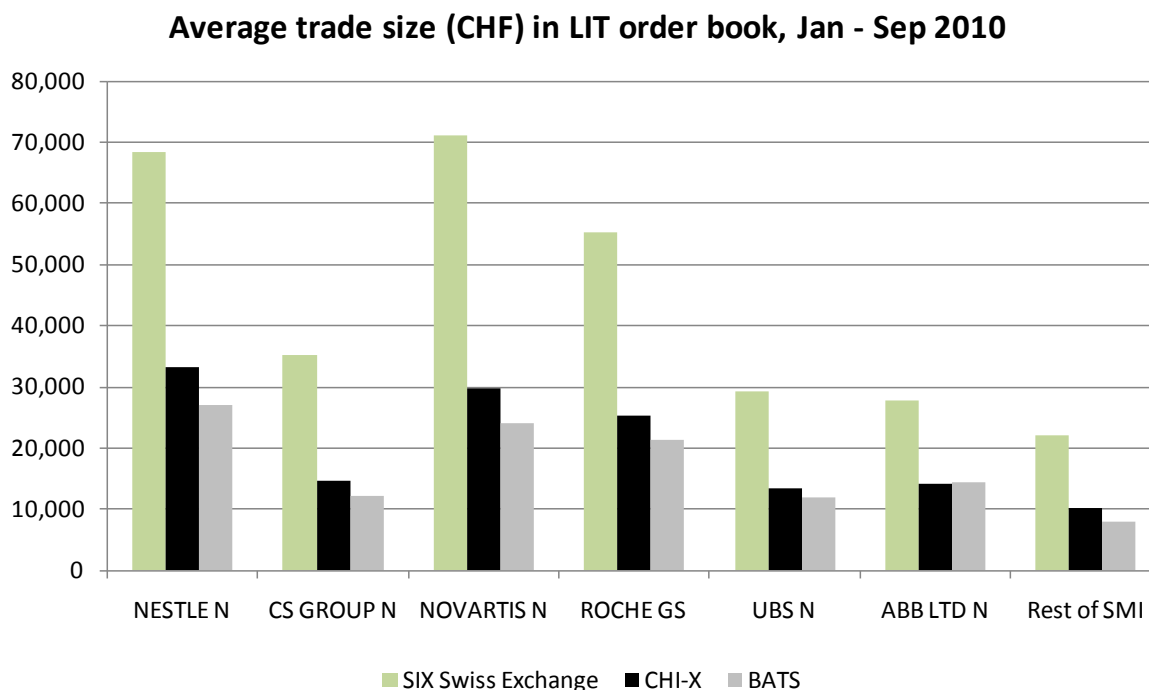


Figure 2 - Average trade size (CHF) in lit books (Source TAG)

If the quality of the order book is then examined further, then it is important to look at the percentage of time each venue is simultaneously present at both the best bid and the best offer, or bids and offers at the EBBO. This metric on its own is shown in Figure 3 below. It indicates that alternative venues have reasonably strong order books in the largest stocks, especially UBS and Credit Suisse where the proprietary traders mainly trade on the London markets. However in the rest of the SMI, the position is not quite so evenly distributed. Figure 4 shows that alternative venues are not so successful in less liquid securities. It indicates that the users of these venues appear less committed to creating a competitive price formation process in the less liquid securities.

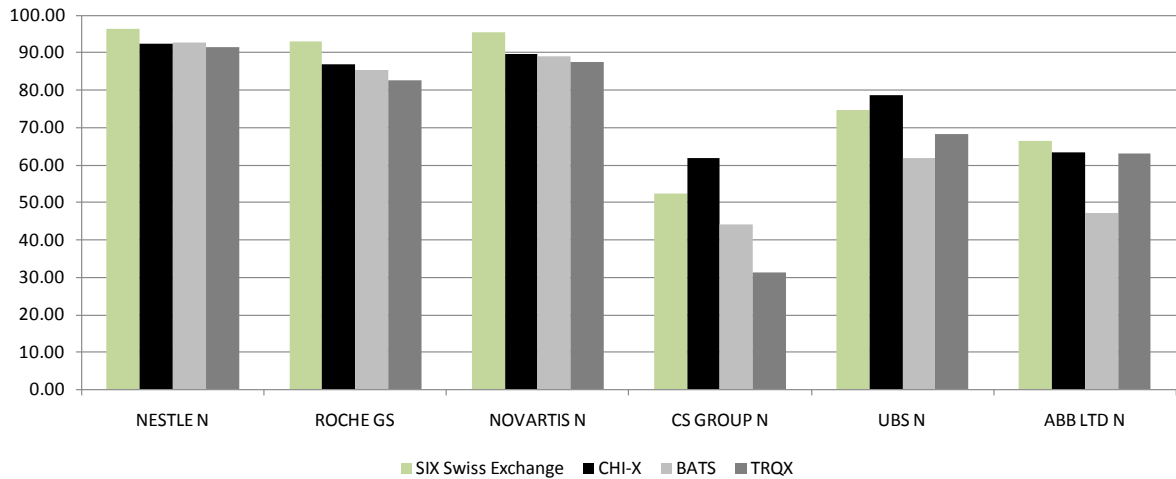


Figure 3 - % of time at best EBO in top 6 SMI shares, Jul - Sep 2010 (Source TAG)

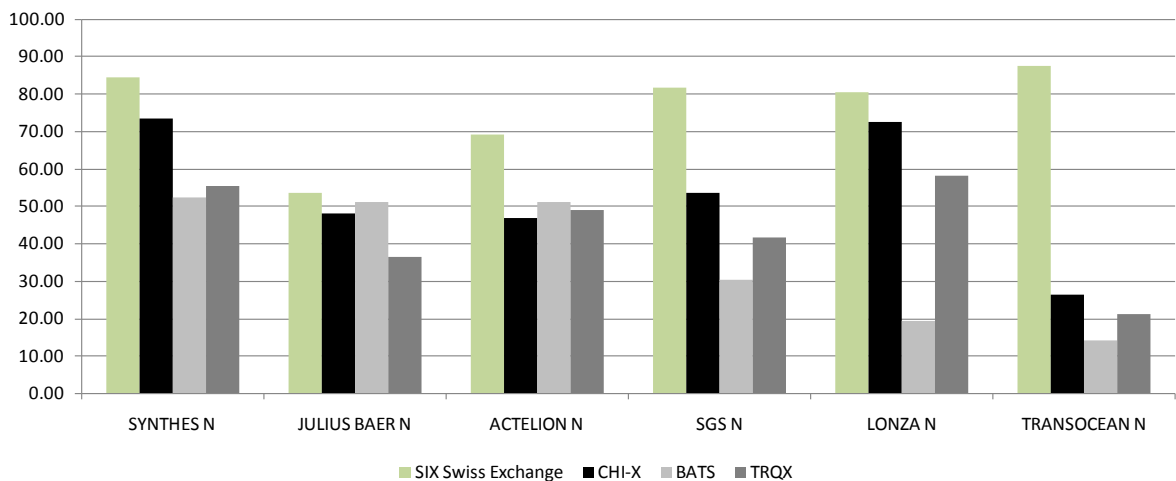


Figure 4 - % of time at best EBO in bottom 6 SMI shares, Jul - Sep 2010

The EBO data however is only a proxy for a reference price. On its own it does not take account of the depth and therefore the resilience of the book to market impact. Indeed, best EBO data can be achieved with as little as one share, not so uncommon these days with high frequency trading. Recognising these weaknesses of a pure EBO metric, Figure 1 shows that the average executable size at the best spread on the SIX Swiss Exchange is 200% to 800% greater than on any other venue. These two metrics therefore need to be combined in a single analysis and the % of time simultaneously at both the best bid and best offer (the EBO) and with the largest executable size (known as the EBO SIZE). This is considered a real metric of a reference price.

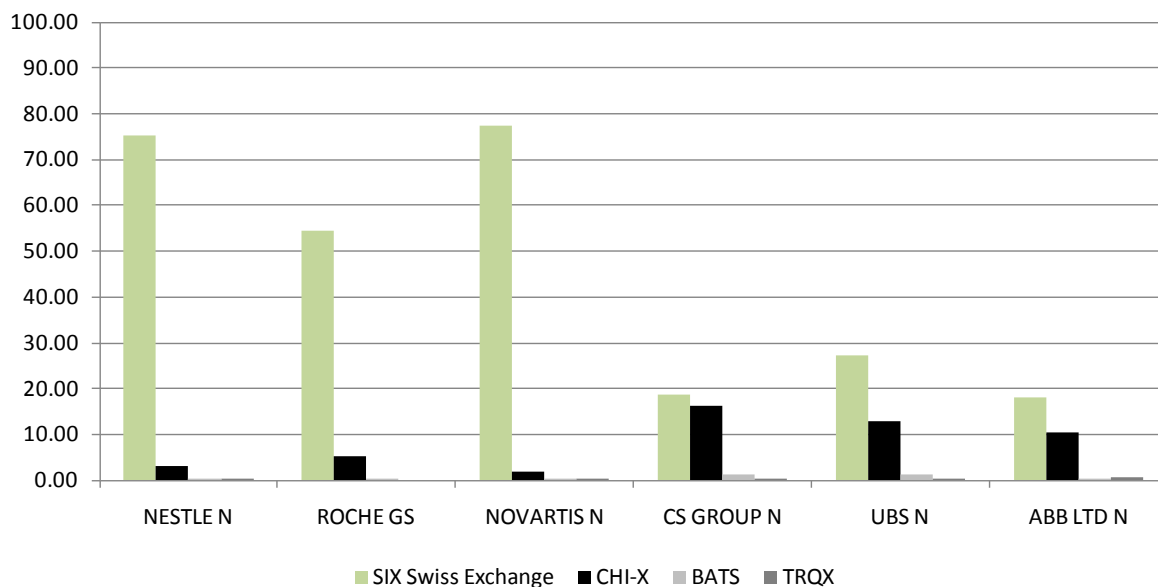


Figure 5 - % of time at best EBO SIZE in top 6 SMI shares, Jul - Sep 2010

Figure 5 and Figure 6 show that the SIX Swiss Exchange order book is of supreme importance to the price discovery. Uniquely amongst the incumbent exchanges so far, the depth at SIX Swiss Exchange has not been destroyed and the average size of a trade has not been sliced materially. For alternative venues to consider pricing off any alternative, it does raise issues about investor protection and market quality. SIX Swiss Exchange shows that in the Top 6 securities it can offer EBO SIZE between 50% and 75% of the time, whereas two of the 3 leading MTFs rarely register, and Chi-X only rises above 10% in two securities and the rest are below 5%. For the bottom end of the SMI, the contrast is even more accentuated.

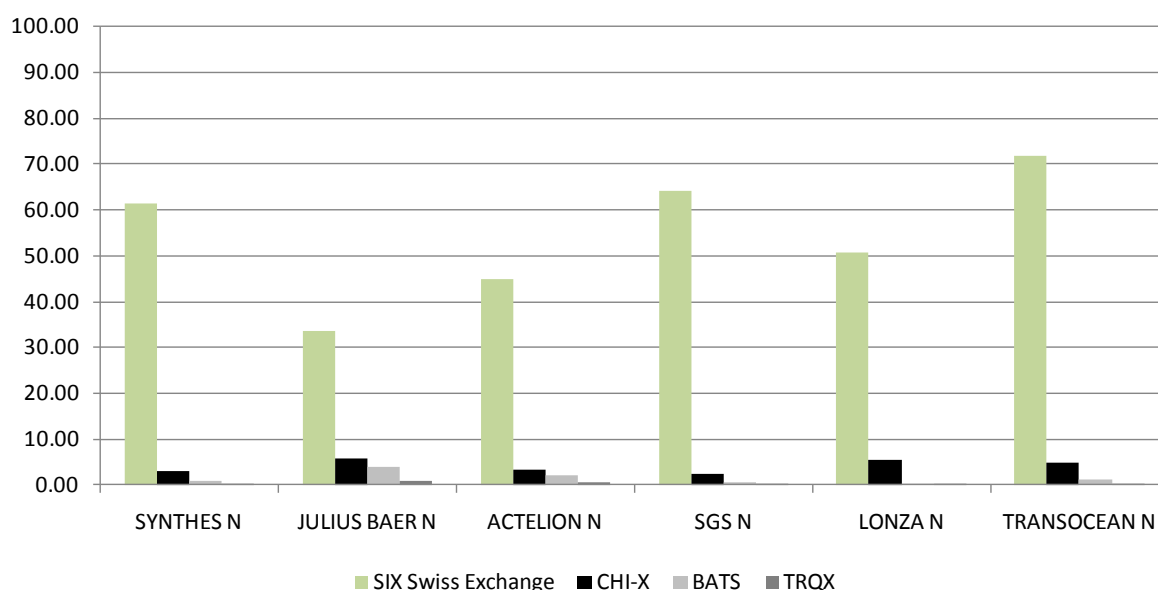


Figure 6 - % of time at best EBO SIZE in bottom 6 SMI shares, Jul - Sep 2010

Based on the above empirical data, in particular the EBBO SIZE, SIX Swiss exchange concludes that these recent numbers are unambiguous. Previous periods were even more marked in dominance. SIX Swiss Exchange believes that the Reference Market and the de facto source of Reference Prices for Swiss listed securities should be SIX Swiss Exchange. SIX Swiss Exchange is particularly keen to protect stakeholders who invest in its securities due to the contagion effect of fragmentation. It would be very difficult for venue organisers and regulators to disregard other price finding mechanisms, even if they are outside the EU, particularly when there is such a disparity in the EBBO SIZE data.

However, SIX Swiss Exchange is most interested in hearing views on this in order to continuously evolve the quality of the European market place. However, taking all of the evidence above into consideration, Question 20 revisits the overall options open to venues.

Question 20

Should other venues such as Multi-lateral Trading Facilities and OTC Bi-Lateral trading facilities that operate dark pools should be obliged to use the Home Market Reference Prices or free to use alternative price sources. The options are:

- 1. The Reference Price sourced only from the Home Market, i.e. the listing venue with the highest volume (the so called Reference Market); or*
- 2. Free choice of Reference Price where they select any Reference Price, and do not disclose the source. This could be the same venues lit book, or a consolidated EBBO from a chosen source, or an internal price for bi-lateral OTC markets - essentially "any price goes" (as long as it is reliable and widely available); or*
- 3. Free choice of Reference Price where there is disclosure of the source, together with a flag highlighting that the source is not the Home Market and the delta between the source and the Home Market.*

Please indicate your preference for 1, 2 or 3 and the key reasons for your choice and if you choose option 2 and recommend an EBBO please define what you believe to be the broad EBBO constituents and whether the Home Market needs to be one of the constituents.

2. Conclusion, Next Steps and Administration

The issues raised in this document underline our view that there is a need for a thorough debate on the topic, prior to formulating policy and changing any existing practices. SIX Swiss Exchange is meeting with a representative set of stakeholders of the industry, issuers as well as Regulators and has also posted this consultation questionnaire on its website. The consolidated results will be disseminated to all interested parties.

For further information please contact:

referencepriceconsultation@six-group.com

Please provide your responses in English in written form following the question structure within this document by 30 November 2010. Responses should be sent to the following email address:

referencepriceconsultation@six-group.com

Please also indicate whether you want your response to remain private or potentially to be used publicly.