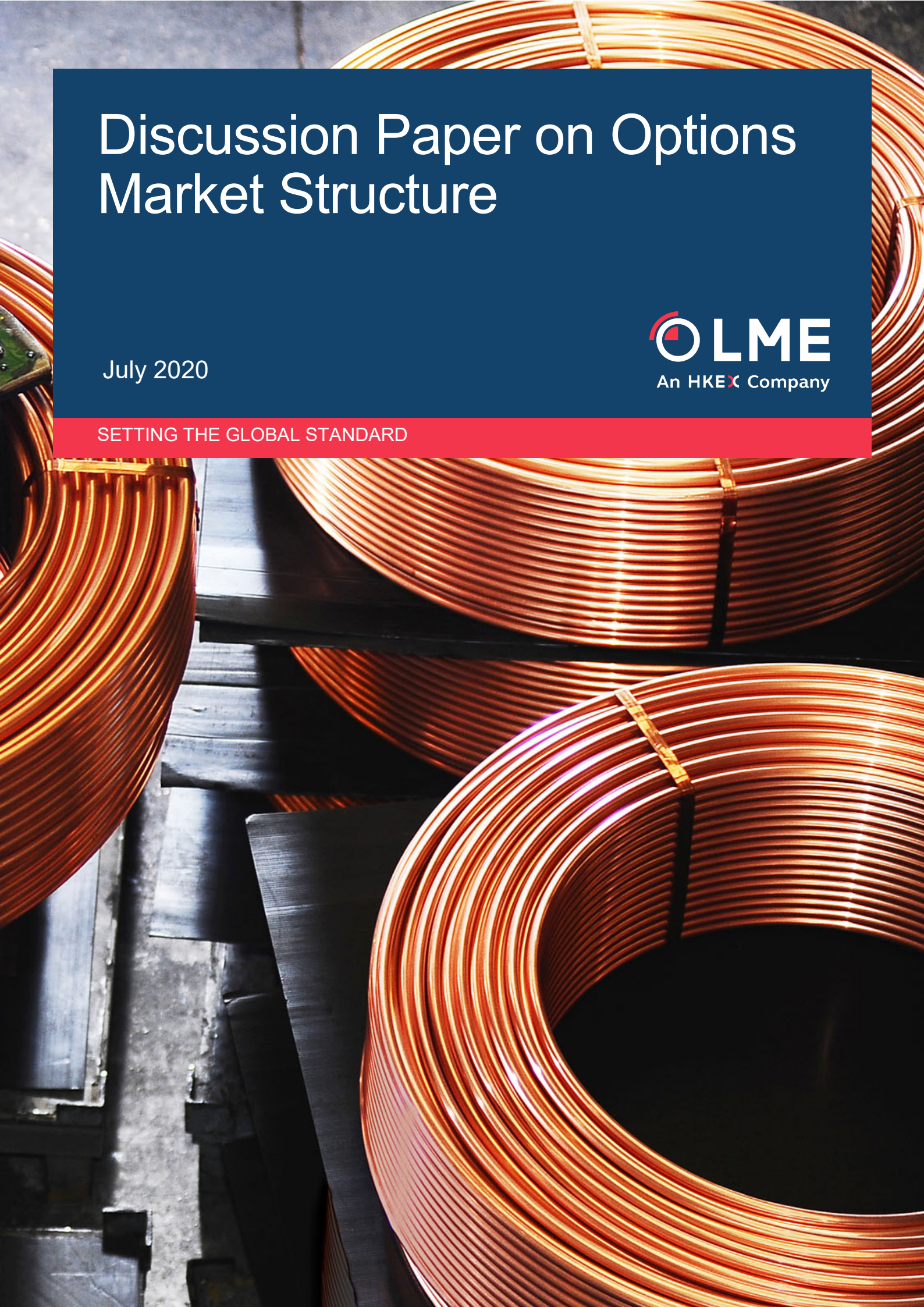
Discussion Paper on Options Market Structure

July 2020

LME
An HKEX Company

SETTING THE GLOBAL STANDARD



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1 INTRODUCTION

The London Metal Exchange ("**LME**") is the largest global non-ferrous metals futures and options market. It provides trading and risk management services to the global metals and financial markets participants.

The LME continually looks at ways that it can improve its markets for stakeholders, and takes account of feedback from the market, both from advisory committees (such as the Traded Options Committee) and from bilateral discussions. From this feedback, the LME believes it is appropriate to consider whether there are aspects of the LME options markets which can be improved.

1.1 Purpose of this Discussion Paper

This document (the "**Discussion Paper**") considers a future pathway for LME options, based on the development of an active electronic options market to complement the existing inter-office market activity. In particular, it poses some questions on certain aspects of the LME options market structure that the LME would like feedback on from both existing, and potential new market participants.

1.1.1 Process for responding and next steps

The LME would be grateful for as many responses to this Discussion Paper as possible as they will be important in shaping subsequent actions. Many of the topics in this Discussion Paper are technical in nature, and as such the LME expects that the Discussion Paper will likely be of most interest to experienced options traders, although it welcomes comments from all interested parties. Responses to this Discussion Paper should be submitted in writing to market.engagement@lme.com, and may be submitted at any time prior to close of business on 29 July 2020. Responses made after this date may not be taken into consideration.

Although the LME will consider responses submitted in any format, it would be helpful if respondents could reply to the numbered questions set out below.

Any market participant wishing to ask questions or to seek clarification on any aspect of the Discussion Paper, or to arrange a meeting to discuss it, is asked to contact market.engagement@lme.com.

The LME may, at its discretion and having taken account of feedback, ultimately implement all, some or none of the proposals set out in this Discussion Paper. Where the LME seeks to implement a proposal, it may do so in the form set out in this Discussion Paper, or in a revised form. Further, in any subsequent consultation on changes to options rules, the LME may include proposals which are not covered in this Discussion Paper (for example, to reflect suggestions from the market engagement process or the LME's own findings or otherwise). Responses received will be treated in confidence, except that (a) the LME may need to share responses received with regulatory authorities, members of its group including LME Clear, its legal or other professional advisers, or as required by law; and (b) anonymised responses may (i) be included in any notice stating the outcome of this market engagement (although the LME shall be under no obligation to produce such a notice), and (ii) be shared with its Options Committee or other relevant advisory committees, as part of its process for defining next steps, unless (in the case of (i) and (ii)) respondents specifically identify any aspect of their response which they believe requires confidentiality.

1.2 Current LME options markets

The LME offers a range of options contracts. Options contracts on the LME launched in 1987 and the options market has since grown to trade over 29,000 lots per day on average in 2020[1].

LME options are used by a large range of participant types, from users and producers of physical metals to help them manage their price exposure, through to many in the investment community in order to take exposure to metals prices. The options market is supported by a large number of members providing pricing and trading services to their clients and to each other. Many other participants also provide essential services, such as the inter-dealer broker community helping to match up trading interests.

The LME currently offers two different styles of options contracts. "**Metal Options**" are American options (they can be exercised on any day up until the expiry date), and expire on the first Wednesday of each month; delivering the 3rd Wednesday future of the same month. The LME also offers Traded Average Price Options ("**TAPOs**"), which expire against the average Cash Settlement Price (as defined in the LME Rulebook) in their expiry month. Metal Options and TAPOs are able to be traded in USD, EUR, GBP or JPY, however the vast majority of trading takes place in USD. This Discussion Paper will focus on the USD Metal Options (hereafter simply referred to as "**LME options**"), which are more the more widely traded of the two types (TAPOs typically make up less than 2% of the total option volume). TAPOs are considered out of scope for this Discussion Paper as their current structure suits their niche use case in physical hedging. Physical participants also make up a significant portion of non-TAPO LME options trading, and so will also benefit from developments arising from this Discussion Paper.

2 PATHWAY FORWARD FOR LME OPTIONS

The future development of LME options markets has been a topic of conversation among participants over the last few years. Having engaged with the Traded Options Committee, existing participants, and potential future options participants, the LME believes that there is demand from a broad spectrum of market participants to develop an active electronic options market to complement the existing inter-office market activity.

Specifically, the LME believes that there is demand for an electronic options market traded in a premium quoted format (rather than a volatility quoted format), as this would list LME options in terms that a wider population of participants are accustomed to using on other markets. An electronic options market in premium terms also offers an increased level of transparency, which the LME believes will be helpful in attracting new participants.

2.1 Developing electronic options markets for the LME

When developing its electronic options market, the LME believes it is important to consider the needs of both potential new entrants to the market, alongside those of the existing participants, with the aims of standardisation, simplification, and transparency. The LME believes that these elements will be key in maximising the success of the LME's options markets in the long term.

[1] Data as of 20 May 2020

Electronic options at the LME should be designed to be as attractive as possible to entirely new participants to the LME, to existing futures traders who would like to trade options, and to existing options traders.

In order to attract entirely new clients to the LME there is a benefit to standardising the market structure of the new electronic LME options markets as far as possible to align with other listed options markets. This will help lower barriers to entry for new participants who trade on other options markets. Simplification has significant benefits, so that these new participants do not have to establish unique processes or trading methods solely for the LME options market. Finally, ensuring the electronic options market, and the LME options market as a whole exhibits a high level of transparency will help new participants to see the benefits afforded by trading LME options, and gain comfort in the credibility of the electronic central market place.

The launch of electronic LME options markets will necessarily bring some new practices for liquidity provision. Prices in the electronic market will be in transparent order books available to any participant with access to LMEselect (either directly, or indirectly via a broker). The LME believes that this new type of liquidity provision is likely to be fulfilled by a combination of existing liquidity providers for LME options – who will be able to use their deep experience to also provide prices electronically – and new electronic options liquidity providers. The new electronic options liquidity providers will likely be experienced electronic options traders, who are able to bring their existing trading models to the LME. Both types of liquidity providers will benefit from the same standardisation, simplification and transparency of LME options markets, to make the development of electronic quoting, or trading LME options for the first time, as easy as possible.

The LME's three aims of standardisation, simplification, and transparency must be balanced against the cost and disruption of change for the existing LME options market. Ideally, the LME would be able to find a path that maximises the benefits of the structure for the new electronic options market, while maintaining the flexibility used by the current inter-office options market. However, the aims are sometimes mutually exclusive, and therefore the LME values engagement with both the existing and possible future participants on these potential changes.

3 DEVELOPMENTS FOR AN ELECTRONIC OPTIONS MARKET

This section of the paper covers areas of development for an electronic options market, which are already part of the technology delivery roadmap at the LME, and are therefore included here for information.

3.1 New trading platform

Participants may be aware that the LME is currently developing the next generation of its electronic trading platform, LMEselect. This new platform is developed entirely within the HKEX Group as a joint effort between LME and HKEX developers, and will give the LME a best-in-class, highly flexible electronic trading platform.

The new trading platform has been designed to support electronic options markets quoted in premium terms (as opposed to volatility terms), with the high processing capability that this requires. The platform also includes a number of specific functionalities that are important for developing liquidity in options markets.

3.2 New functionality in the new trading platform

Certain functionality within the LME's new trading platform is being implemented specifically in order to support electronic options markets.

Market maker protections, mass quotes, and mass cancellations are all commonly utilised by electronic liquidity providers ("**LPs**") to manage their quotes in the market. Having the right combination of functionality available for LPs typically allows them to provide deeper, tighter, and more consistent liquidity.

Options strategies will allow end-users to create custom option structures within the electronic platform, and have LPs price these strategies. This improves execution quality compared to executing the legs separately.

A more detailed explanation of this functionality is included in the appendix of this Discussion Paper. The technical details will be communicated separately to participants via Notice and on the LME website as the development of the platform evolves.

4 POTENTIAL STRUCTURAL DEVELOPMENTS

There are a number of topics covered below that have been highlighted by existing participants, and/or potential future participants, as being key areas of development to help maximise the success of LME options markets; either generally, or specifically when considering the launch of electronic options markets.

The LME believes this is an opportune moment to solicit views from market participants on these areas, so that any desired enhancements can be formalised and potentially made alongside the launch of the new trading platform.

4.1 Options expiry process

4.1.1 Manual vs. automated expiry

LME options utilise a manual expiry process. This means that an owner of an option must make a decision as to whether to exercise or abandon an option contract on any given day up until the day of expiry. If the right to exercise the contract is not taken, then the contract is abandoned once the expiry date and time passes.

The exact exercise time for LME options is 11:15 on the first Wednesday of the expiry month. Clearing members have until this time to choose to exercise their long options positions within LME Clear's clearing system, LMEmercury. Any option not exercised by this point will be automatically abandoned. Options positions within a member's client accounts are treated in the same way as those in the house account and will expire at the same time. Given the processing required by members, they may require clients to notify them of their exercise instructions by an earlier time than the LME exercise time, as determined by each member.

Most listed options markets operate an automatic expiry process. Under this approach the options will have a specific expiry price, often the day's settlement price for the underlying. On the expiry day, the expiration or abandonment of the options is determined by a rule referencing this expiry price. For example, all in-the-money options are exercised, out-of-the-money options are abandoned, exactly at-

the-money (when the expiry price is equal to the strike price) puts are abandoned and calls are exercised.

Some listed options markets also offer a window for contrary instructions. This is a short period (often around an hour in length) after the establishment of the expiry price during which option owners can manually choose to reverse the default expiry decision.

There are advantages and disadvantages to each approach. A manual process gives holders the most flexibility. An option owner can chose to exercise an option which is out-of-the-money if it is beneficial to do so (an owner of a call may want to own the underlying future anyway, and may believe it will be cheaper to exercise a slightly out-of-the-money option than have to buy the futures separately). An option owner could also choose to abandon an option that is in-the-money (for similar reasons). One of the biggest advantages is for option owners to be able to exercise a portion of their position. The holder of a big option position can choose to exercise half of their position, which would normally align to the amount of the underlying future they were holding as a delta hedge, thus reducing their pin risk at expiry.

One disadvantage of a manual expiry process is that it is more prone to errors. Option owners might forget to exercise a position that is in-the-money, or accidently exercise an option which is out-of-the-money. There is likely a heightened risk of errors for clients, as there will be multiple people required to process the decision correctly at both the client and clearing member. This chain of people required to process the expiry will also mean that the decision maker most likely has to make their expiry decision some time ahead of the actual 11:15 cut off. The LME seeks to achieve a balance of retaining maximum flexibility and having a robust process that would be less prone to error than the current manual process. LME Clear does offer some functionality within LMEmercury to enable options to be automatically set to exercise if they are within two strikes of an indicative expiry price (calculated from a combination of an earlier VWAP and the previous day's Closing Prices) but this does not entirely remove the risk of error.

It should be noted that potential errors made during the option expiry process (which could be caused by human error by the option holder, or operational process errors at clients or members) may lead to sizable financial losses to the option holder. There have been some examples of these errors in LME options markets in the past.

Given the above, and the fact that the majority of listed options markets use an automatic expiry process, some participants in LME options have expressed a strong desire for the LME to move to an automatic expiry process. It has also been suggested that this change would help to bring new participants to the market. A more automated expiration process would align the LME to the standard practice in listed options markets and remove complex operational processes that create barriers to entry for new participants.

Having a contrary instruction window might be seen as a balanced solution, still giving the option owners a choice to override the expiry decision given by the automatic rule. A contrary instruction window does however introduce a level of manual operational process and structural complexity that may be undesirable. Several listed options markets have moved away from having contrary instruction windows in recent years. This may be due the desire to simplify the expiry process as much as possible, so that all option longs and shorts have certainty about the expiry at the moment the expiry price is published.

4.1.2 Expiry price calculation

If the LME were to move to an automatic expiry process, it would raise the question of the appropriate way to determine the expiry price, and the appropriate time to do this.

Historically, the late-morning expiry time has meant that participants in both Europe and Asia were likely to be able to participate in the expiry process. Participants in the Americas have expressed a preference for a later expiry time. It could be argued that the best time to serve all three time zones would be early afternoon in London, as this would ensure US markets have opened, and Asian traders often seem to still be trading at these times.

Since the introduction of implied pricing in LMEselect, there has been consistent top-of-book liquidity in the nearby 3rd Wednesday futures. In the LME's view, these prices could be used to determine an expiry price, should this be identified as the preferred path forward. It would also be possible to use the Closing Price (normally established on the Ring) as an expiry price, though this would limit any flexibility of being able to choose an expiry time for the options market specifically. Using Closing Prices would potentially limit the ability to automate the process, as there is an intentional delay between the times at which Closing Prices are determined and the times at which they are finalised (and published as final). There may also be further concerns with the timings of the objection process for Closing Prices, as this could lead to unpredictable results for options holders.

If prices from LMEselect were to be used to generate the expiry price, there are multiple methodologies that could be used, each with their respective benefits. The pricing methodology could range from a simple market snapshot, to algorithms that are more complex. The two most often discussed approaches are a volume weighted average price ("**VWAP**") or time weighted average price ("**TWAP**") over an appropriate time period (typically between 2 and 15 minutes). The advantages of a VWAP is that it is a record of actual trades and, as such, may be seen as a more representative price. The TWAP will often take a sample of prices over a wider period, where a VWAP can be influenced by a smaller number of large trades.

4.1.3 American vs. European options

One final area of discussion is the style of the options themselves. Currently, LME options are American style, which means that they can be exercised on any day up to the expiry day. In practice this rarely happens as the LME's DCVM margin methodology for the underlying instruments means there is little economic rationale to exercise an option early. As a consequence of this, LME options are priced using a model more similar to the standard European pricing model (the LME uses a slightly modified version of Black76). If the option expiry process is to evolve with the intention of making it as simple as possible for participants, it may be advantageous to formally change LME options to being European style, in order to simplify the expiry process. Otherwise clearing members would be required to retain manual exercise processes should they, or their clients, ever want to exercise an option ahead of its expiration date.

Questions:

1) Do you think that the LME should consider transitioning its existing expiry process to an automated expiry process?

2) If the LME did transition to an automated expiry process, do you think there should be a contrary instruction window? Please explain the reasons for your response.

3) If the LME did transition to an automated expiry process, do you have a preferred methodology for the expiry price to be determined?

4) Do you think that the LME should look to change the current option expiry time? If yes, what factors should the LME take into account in determining an appropriate expiry time? Do you have a preferred time for option expiry to take place and if so, why?

5) Do you think that the LME should change its options to European style?

6) Is there anything else that you think the LME should consider regarding the option expiry process?

4.2 Strike listing rules

LME options are currently available with a relatively flexible strike granularity. Regardless of metal, strike prices are available at an interval of $25 for strikes from $25 to $9,975, at an interval of $50 for strikes from $10,000 to $19,950, and at an interval of $100 for strikes of $20,000 and over.

This flexibility is understood to be useful for participants in the inter-office market, where all trades are bilaterally negotiated, often between an end-client (who then has a wide range of strikes to choose from to best achieve their desired risk profile), and a liquidity provider (who is able to price any strike). In an electronic market however, this flexibility has a significant drawback, as it would likely result in liquidity being spread across a large number of available strikes, which could prevent liquidity from naturally aggregating on specific strikes.

Most listed options markets have a framework that dictates a structured set of strikes available for trading, with finer granularity closer to at-the-money, and wider granularity further out.

Within the new version of LMEselect, the functionality exists for the LME to automatically list strikes by clearly defined rules. The LME could construct a model by which strikes are automatically listed dynamically around the at-the-money price, in order to help liquidity pool on those strikes (for example: 5 strikes at $25 increments; 5 strikes at $100 increments; and 5 strikes at $200 increments). It would be possible to allow participants to “user-create” other strikes, or this functionality could be disallowed if it was felt that this could fragment liquidity without a sufficient benefit.

It may also be possible to operate a model where a restricted set of strikes is available on LMEselect, with a broader set of strikes available in the inter-office market. While there may be some advantages to restricting available strikes in the inter-office market so that they are the same as those available on LMEselect (such as to simplify market data feeds and concentrate liquidity), these may not outweigh the benefits afforded by the current flexibility. It could be argued that if LMEselect offers a restricted set of strikes, then the inter-office market could move to give even greater flexibility than the current intervals (such as the $1 increments currently available in TAPOs). There may be a benefit to setting a maximum and minimum strike price for the inter-office market. This would likely have some benefit for market data feeds, and simplified risk management and booking models.

Questions:

7) Do you believe it would be beneficial for the LME to limit the strikes that are automatically listed on LMEselect as being available for trading?

8) Do you believe the LME should allow participants to create strikes on LMEselect outside of those that are automatically listed?

9) Do you believe the LME should implement some limited restrictions on what strikes can be traded inter-office, such as having a maximum and minimum strike? If so, how should these parameters be set?

10) Do you think the LME should have more significant restrictions on the strikes available for trading in the inter-office market?

11) Is there anything else you think the LME should consider regarding the strike listing rules?

4.3 Tick sizes

Currently, options premiums can be traded at $0.01 tick sizes in the inter-office market, as can LME futures. Futures' tick sizes on LMEselect are set at wider granularity, to benefit the pooling of liquidity. The topic of the ideal tick sizes for an electronic market is one that has seen a lot of academic debate, and has been discussed by the LME on previous occasions. The LME believes that the current futures tick sizes in general represent an appropriate balance of flexibility and liquidity pooling.

There are several approaches that could be taken for options in the new version of LMEselect. The LME could implement the same tick sizes for options that exist for the underlying futures. This has the advantage of being particularly simple for market participants, and for the configuration of trading systems.

That said, as options contracts generally trade at a very wide range of prices, there could be an advantage to having more flexible tick sizes for options. The LME could look to implement variable tick size rules that change with the premium, to allow finer granularity for those options trading at a smaller premium value, and a wider granularity for those trading at higher premiums. For example; $0.1 ticks for premiums below $5, $0.5 for premiums from $5 to $250 and $1.00 ticks above $250.

The LME could also look to implement similar restrictions in the inter-office market. Again, the LME is mindful of the need to strike a balance between simplicity, standardisation and flexibility. The LME is inclined to move towards standardisation for the electronic options market, while retaining the advantages of flexibility in the inter-office market.

Questions:

12) What do you think would be the best approach for the LME to take regarding tick sizes for options on its electronic market: fixed tick sizes the same as futures; fixed tick sizes at a finer granularity than futures; variable tick sizes; or some other solution? Please provide as much detail as possible as to the reasons for your preference.

13) Do you think the LME should look to amend the tick sizes for options in the inter-office market? If yes, please give details.

14) Is there anything else you think the LME should consider regarding tick sizes for options?

4.4 Closing Price process

Daily Closing Prices (as defined in the LME Rulebook) for LME options are derived from volatility submissions from members who are active in LME options markets (where "active" is broadly defined as having traded a stated percentage of total volume in the relevant metal option series). Active members are required to submit volatilities for five delta points (-0.1, -0.25, 0.5, 0.25, 0.1) for each of the front six expiries. The LME then performs a degree of data cleansing, averages the submissions, and interpolates to give a full volatility surface. This volatility surface is combined with the corresponding futures' Closing Prices to generate options' Closing Prices in premium terms. While this process is generally well understood by members and results in widely used, reliable Closing Prices, it does have some inherent challenges. Submissions reflect individual members' assessments of current value, which will not necessarily have universal agreement. This is particularly true in a market where most trades are bi-laterally negotiated, so each submitting member may not be incorporating the same set of market information.

With the development of an electronic options market, electronic trading data could be incorporated into the process for establishing Closing Prices. The advantage of using data from the electronic market is that these prices are particularly transparent, and with all participants having had an opportunity to interact with them (assuming that the electronic orders exist for a suitable time period). As such, it could be argued that prices from the electronic market should take precedence within a future pricing methodology.

There are some further advantages to using electronic prices as a basis of the Closing Price process. Due to the different compliance oversight requirements that are generally established in relation to reference prices that are established through a submission-based process, some members find it challenging to take part in this submission process. Also, some members are not able to trade structured products which reference LME options prices, as they also may submit data in relation to the establishment of those prices.

However, it is unlikely that there will be liquidity in all parts of all LME options markets, and there is a high probability that the LME will need to retain the option submission process – either as part of a broader pricing methodology, or for parts of the pricing curve that are less liquid. It is also worth noting that the reliability and credibility of any pricing process is of utmost importance, and so any changes must be carried out in a careful and considered manner to ensure the ongoing robustness of the process and the resultant prices.

Questions:

15) Do you think that the LME should look to include prices from the electronic options market in the process for establishing Closing Prices? If not, why not?

16) Do you believe that an order in the electronic market (with appropriate thresholds of time and size) should be the highest priority when establishing Closing Prices?

17) If the LME was to move over to using the electronic market as the primary source of data for the Closing Price process, do you believe it would still be appropriate to retain a submission-based process for areas of the volatility surface that are not liquid electronically?

18) Is there anything else you think the LME should consider regarding the Closing Price process for options?

5 OTHER TOPICS

There are additional topics on which the LME would like to solicit views from the market without asking detailed questions. For some of these topics (liquidity provider programmes and changes to LIS option trade data) the LME believes development is likely to be required, but that participants should still have the opportunity to share their views. Others of these topics (block rules and new options contracts) are unlikely to lead to immediate development, but are considered to be important features of other markets, and therefore the LME also wishes to hear views on these areas.

5.1 Liquidity provider programmes

With the launch of an electronic options market, it may be beneficial for the LME to introduce a liquidity provider programme ("**LPP**") in order to maximise the success of the development of these markets. The advantage of having an LPP is to encourage liquidity in certain contracts. LPPs are particularly beneficial in options markets, where there is a large number of contracts available to trade, which may not develop enough organic liquidity without incentivised LPs.

Any LPP should be open to all participants on the same terms to ensure fairness, subject to participants meeting appropriately set conditions for participation. The LME believes the programme should be designed to ensure the best possible market for end-user participants, looking to take or hedge risk using LME options markets. This may give benefits to those LPs who are quoting tightest, or trading the most, and/or use other metrics. It is important that the LPP is designed correctly, and participation is monitored appropriately in order to achieve the best outcome for the market as a whole.

Questions:

19) Do you agree that implementing a liquidity provider programme for electronic options markets would maximise the success for these markets?

20) Do you have any opinions on the specific structure of a future liquidity provider programme?

5.2 Block rules

Block trading rules is a topic that has been brought to the attention of the LME by options traders experienced in other options markets, who may look to start trading LME options when there is an electronic market. Block trading rules are common across many listed futures and options markets. These frameworks generally specify a minimum trade size (by lot size), below which it is only possible to transact in the electronic order book. At or above the block size, trades can be bilaterally negotiated, much like the current LME inter-office market.

These participants feel that block rules are key to ensuring fairness between participants in the market. They believe the thresholds should be set at such a level that at least the majority (some argue for the vast majority) of trades take place in the electronic market and as such are fully transparent and accessible to all market participants. They argue the trades that are privately negotiated create information asymmetries and have a negative impact on overall market quality, to the detriment of prices for end-users. It is argued that this leads to a negative spiral, where liquidity providers will have to quote wider prices due to the risk of being picked off, which in turn makes the electronic market less attractive.

Even those participants most supportive of block trading rules do agree that when trades are of a particular size they should be able to be privately negotiated. The ability to privately negotiate the price between the end-user and liquidity provider without it being seen by the wider market, and then for the liquidity provider to then be able to process the risk leads to significantly better outcomes for these larger trades. As such, those traders who are supportive of block rules believe it is important to identify the appropriately set threshold so that smaller transactions create open, transparent pricing, but larger trades can be privately negotiated.

Historically, LME options markets have been fully flexible, allowing all participants absolute choice over their execution methods. As such, implementing block rules is likely to be a contentious topic as it starts to break down the nature of members being able to make markets to their clients (as this would only be possible above the block threshold).

Given the potential benefits but also the potential disruptions that block rules might have on LME options markets, the LME is particularly keen to hear the views of both existing and potential new options markets participants on this topic.

Questions:

21) Do you believe the LME should consider implementing block trading rules for LME options markets once the electronic markets are launched? If so, what factors should be considered when setting the block thresholds? Please give as much detail as possible in your answer.

5.3 Large-in-scale option trade data

During the implementation of the Markets in Financial Instruments Directive 2 and the Markets in Financial Instruments Regulation (together, "**MiFID 2**") requirements relating to transparency obligations, the LME introduced a system of delayed reporting for large-in-scale ("**LIS**") options transactions. Any trade in the inter-office market equal to or above the LIS sizes (replicated below for ease) has its data publication delayed until 19:00 on the business day after the trade date.

Metal	LIS threshold (transaction must be equal or greater than)
Aluminium	1,000 lots
Aluminium Alloy	500 lots
Copper	500 lots
Lead	500 lots
NASAAC	500 lots
Nickel	500 lots
Tin	100 lots
Zinc	500 lots

The deferred publication brings potential advantages for individual transactions, but has possible disadvantages for the overall market structure. In addition, it may present challenges in terms of attracting new LPs to the market. The delay in publishing a trade means that the parties to a transaction may have a longer period to manage their resulting exposures before the wider market is aware of the trade. This may allow the liquidity provider to make a tighter price for a single large bilateral quote. However, it also introduces an information asymmetry, as only certain participants may be aware of potentially market moving trades. As a result, all liquidity providers may make wider quotes overall. The impact on electronic LPs is most profound, as their quotes are available for all participants to transact against immediately. There is a balance between protecting the information in an individual transaction, and not degrading the overall market quality due to information asymmetries.

If any change in this area is desired, the LME could look to amend the process of delayed reporting for LIS transactions in the three ways. Firstly, delayed reporting could be removed, meaning that all trades are published as soon as they are booked into LME systems. Secondly, the LME could look to amend the LIS thresholds. It would likely only be possible to increase the sizes, as the minimum sizes allowed are stipulated within MiFID regulation. Thirdly, the LME could explore a reduction in the delay period, after which LIS trades are published. Trades could either be published at a fixed daily time (ie 19:00 on trade date), or at fixed time after transaction (ie 2 hours after the trade time).

Questions:

22) Do you think the LME should look to amend the delayed reporting of LIS trades?

23) If a change is desired, considering the above options, what amendments do you think the LME should pursue?

5.4 New options contracts

Occasionally some options markets participants have expressed interest in the trading of new styles of options contracts, in particular some shorter dated options (such as daily or weekly variants of existing options). Some exchange traded options markets have had success in launching shorter dated options contracts alongside an existing monthly contract, and the LME understands the interest in these being available for LME markets.

However, with the launch of the electronic LME options markets, the LME is minded to ensure the focus is on the standard LME options contracts, and to maximise the liquidity in the short term, rather than potentially splitting liquidity by launching new options contracts at the same time.

In the longer term, the more near dated focus which electronic options LPs often have may then incidentally make it easier to launch a shorter dated option contract once these participants are trading LME options.

The LME is keen to hear the views of participants, and whether this is an area the LME should investigate further.

Questions:

24) Do you think the LME should investigate launching a shorter dated option contract alongside the monthly LME options?

25) Are there any other options contracts you think the LME should investigate launching?

5.5 Any other topics

If there are any other topics that any stakeholder feels are important for the LME to consider in order to maximise the success of the electronic options market, or LME options markets more generally, then the LME is keen to discuss these areas.

Questions:

26) Are there any other topics you think the LME needs to consider in order to maximise the success of the electronic options market?

27) Are there any other topics you think the LME needs to consider in order to maximise the success of LME options markets more generally?

28) Are there any potentially significant impacts that you foresee from an operational or other perspective on your LME options trading activities as a result of the proposals in this Discussion Paper?

6 APPENDIX

6.1 Market maker protections

Market maker protection ("**MMP**") is a functionality within an electronic market which allows liquidity providers to stipulate sets of conditions (such as numbers of trades executed, or total volume executed) over a short timeframe (normally a matter of seconds) which if triggered would automatically cancel all existing orders they have in the market.

This is particularly important for an electronic options market due to the large range of potential options contracts which will all need liquidity at the same time, and the speed with which electronic markets can trade. Option LPs will be quoting many strikes with both calls and puts, across multiple expiration series which creates to an increased risk profile for LPs.

LPs need to manage their quotes such that any combination of orders trading at one time cannot breach their desired total risk exposure. This may mean only quoting a very limited set of instruments, or only quoting in very small sizes. Either result would not be ideal for the provision of liquidity. MMP allows LPs to post liquidity in a wider set of instruments, with bigger sizes and have confidence that their increased risk profile can be managed appropriately.

MMP functionality is common within electronic options markets. The following three MMP trigger conditions are intended to be available within the new version of LMEselect.

- Total volume – allows an LP to set a total volume threshold across all options. If the LP gets filled on this volume of their orders within their specified time window, then all remaining orders will automatically be cancelled
- Number of instruments traded – allows an LP to set a threshold on the number of instruments able to trade (eg 10 different options instruments). If the threshold is breached within the time window, all remaining orders are cancelled.
- Percentage of fills – allows an LP to set a threshold total percentage of fills (this threshold must always be over 100%). After the threshold is breached, all remaining order are cancelled. For example, if the LP sets the threshold as 500%, with a time window of 1 second, then if in any rolling 1 second window 500% of individual orders are filled (eg 5 orders totally filled, 10 orders half filled, or any appropriate combination) the MMP would trigger and cancel all remaining orders.

The cancelation discussed within MMP happens automatically with the trading platform, and before any further orders are processed.

The LME will establish rules and monitoring around the usage of MMP to ensure they are used for the intended purposes, and lead to the desired outcome of increasing the available liquidity of options in the electronic market place.

6.2 Mass quoting

Given the previously discussed wide range of instruments that LPs will quote, the need to send individual order messages for each bid or offer can be resource intensive. A particular problem is caused by the throttling limits within electronic trading platforms, which would make it difficult to

manage the number of different orders required in order to fully populate an options market.

One solution to this is a mass quote message type. This efficient message type allows LPs to use a single message to enter, update, and cancel two-sided quote pairs across a large number of instruments.

The LME intends to offer mass quoting functionality within its new trading platform. The exact number of quotes available and the rules for their usage have yet to be fully determined.

6.3 Mass cancellations

As with mass quotes, should an LP need to cancel all their quotes (such as in an extreme market move), the required number of individual cancel messages that would be needed would make this resource intensive, and expose the LP to increased risk.

Mass cancelation messages allow an LP to submit a single mass cancelation message to cancel all their orders at once. This functionality is standard across most electronic options markets.

6.4 Strategies

Options strategies allow participants to trade a combination of options (and futures in some circumstances) as a single package. Participants can create their own strategies with their chosen combination of options and futures (governed by a framework), and then create a specific order book for that package. Trading in the strategy order book involves trading all the combinations of the strategy at once, at a strategy price.

This allows end-users to construct the precise options structure they are looking to trade, and achieve certainty of pricing and execution by trading it as a single package, rather than having to trade each component separately. This can reduce the execution risk, and may reduce the slippage as the overall bid-offer spread may be tighter than the combination of bid-offer spreads in each component of the strategy (due to offsetting risk).

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