



European Securities and
Markets Authority

Final Report

Call for Evidence on Periodic Auctions

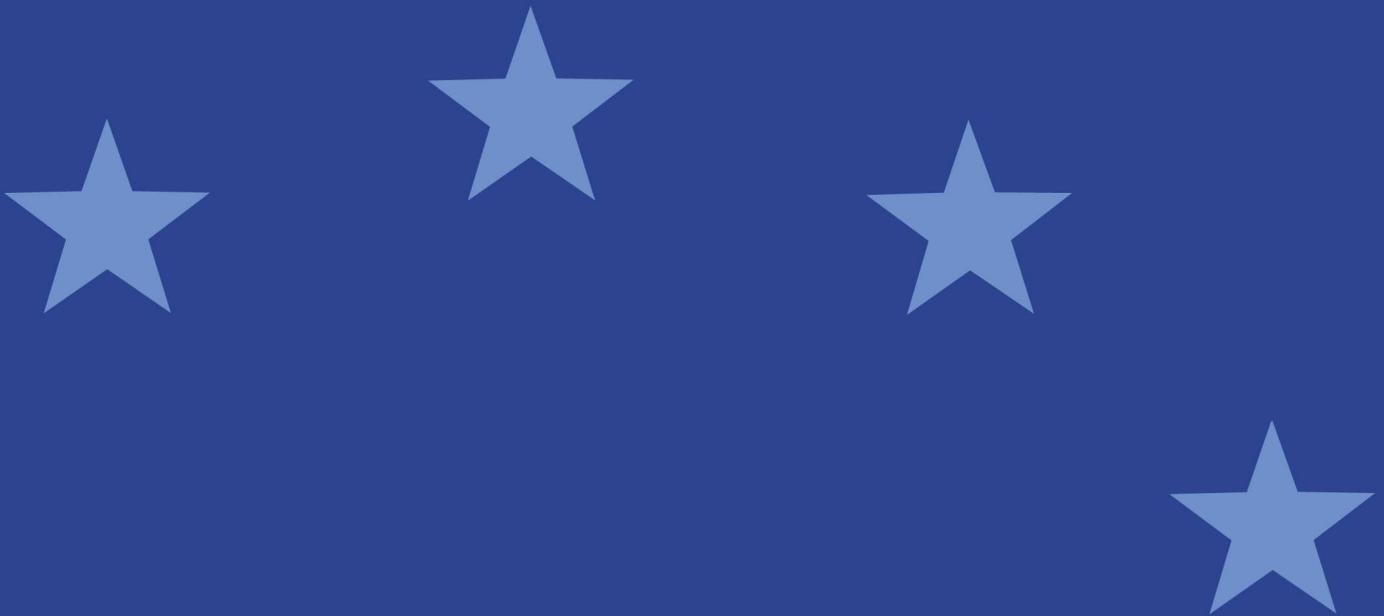


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1. Executive Summary

Reasons for publication

Frequent batch auctions (FBAs) have been rapidly gaining market share since the application of MiFID II. In order to better understand FBA systems and to assess whether and to which extent these systems are used to circumvent the double volume cap (DVC), ESMA published in November 2018 a call for evidence.

This final report presents the feedback ESMA received to the call for evidence and informs stakeholders on the next steps ESMA intends to take.

Contents

The final report follows closely the structure of the call for evidence. Section 3 sets out the feedback received on the main differences between FBAs and conventional periodic auctions and on the development of FBA, including an updated analysis of market developments up to February 2019. Section 4 provides an overview of feedback received on the four key characteristics of FBAs. ESMA recommends focussing follow-up actions on two areas: pre-trade transparency (section 4.1) and price determination (section 4.3). Finally, section 5 summarises the feedback received to the general developments in equity trading and includes an updated analysis of market developments up to February 2019.

The Annex includes the detailed question-by-question feedback received to the call for evidence.

Next Steps

ESMA will work on further guidance along the lines recommended in this report, covering in particular the areas of price determination and pre-trade transparency. Furthermore, ESMA will look at the broader effects of the MiFID II transparency regime, including the general development of the market structure in the upcoming MiFID II review reports.

2. Introduction

1. On 9 November 2018 ESMA published a call for evidence on frequent batch auctions (FBAs), a new type of periodic auction trading systems. In 2018, and in particular following the first suspensions of trading under the double volume cap (DVC), FBAs for equity instruments have been rapidly gaining market share. This development triggered concerns that FBAs may be used to circumvent the suspension of trading under the DVC. The call for evidence aimed at gathering more information on the functioning of FBAs and to assess whether and to which extent these systems can be used to circumvent the MiFID II transparency requirements.
2. The call for evidence invited stakeholders to provide comments by 11 January 2019. ESMA received 33 responses to the call for evidence, thereof four on a confidential basis. Respondents reflected the whole spectrum of financial market participants and included trading venues (trading venues operating FBAs as well as other trading venues), market participants trading on FBAs and major trade associations and industry bodies.
3. This report summarises the feedback received to the call for evidence and presents ESMA's reflections on the feedback provided, including possible follow-ups, where considered necessary. Where follow-ups are identified, ESMA intends to issue supervisory guidance in the coming months. The report follows the same structure as the call for evidence. Section 3 covers the definition of FBAs and the development of FBA trading. Section 4 assesses in more detail the four key characteristics of FBAs currently operated and presents the way forward. Finally, section 5 covers broader market developments in equity trading following the application of MiFID II. The Annex provides a granular summary of the feedback received to the questions in the call for evidence.

3. MiFID II and FBAs

3.1. Criteria distinguishing FBAs from conventional periodic auctions

4. In its call for evidence, ESMA considered FBAs as a type of periodic auction that functions in a similar way as conventional periodic auction but highlighted two characteristics that distinguish FBAs from conventional periodic auctions. Firstly, while conventional periodic auctions last several minutes, FBAs have a shorter duration of only some milliseconds. Secondly, conventional periodic auctions are scheduled by the trading venue, whereas FBAs are either triggered as soon as an order is submitted, or once a potential match has been identified.
5. The large majority of respondents agreed with the identified characteristics as the most important characteristics distinguishing FBAs from conventional periodic auctions. Some respondents stressed that not all conventional periodic auctions are scheduled – for instance an auction can be held following a volatility event. Some stakeholders considered

that both characteristics have to be met cumulatively in order for an auction to be considered as a FBA.

6. Furthermore, a number of respondents suggested to consider a third characteristic distinguishing FBAs from conventional periodic auctions. While FBAs are commonly triggered throughout the trading day, conventional periodic auctions are normally held outside of trading hours, i.e. either before or after trading hours, or when trading is interrupted due to a volatility event. At the same time, some respondents highlighted that some conventional auctions are held during continuous trading hours (for instance ‘micro auctions’).
7. Based on the feedback received and taking into account that there are currently no clearly defined terms for FBAs or conventional periodic auctions, ESMA is considering providing further clarity on both terms in the future. However, this should not prevent systems and mechanisms clearly identified in this report to adapt to the findings included below.

3.2 The development of FBA trading under MiFID II

8. In its call for evidence, ESMA highlighted that the overall trading volume in equity instruments on EU trading venues in the first nine months of 2018 had broadly remained at the same level compared to the period prior to the application of MiFID II. The largest part of on-venue trading was executed in a lit environment or under a waiver not subject to the DVC (‘rest of trading’) while trading on FBAs (‘frequent batch auction trading’) and under waivers subject to the DVC (‘under the waiver trading’) only constituted a small part of the total volume.
9. Following the publication of the call for evidence, no major changes to this development can be observed over the last months. Figure 1 shows an updated data analysis including data up to February 2019. Both trading under waivers subject to the DVC and FBAs trading still only account for a small amount of overall trading volume. At the same time, it can be observed that trading under waivers subject to the DVC increased following the end of the first DVC suspensions DVC in September 2018.

FIGURE 1: DEVELOPMENT OF TOTAL TRADING VOLUME IN EQUITY INSTRUMENTS ON EU TRADING VENUES



Note: Total trading volumes broken down by type of trading, in EUR bn.
Sources: ESMA.

10. The call for evidence highlighted that FBA trading had experienced a sudden surge in market share after the first suspension of dark trading, rising from a total trading volume on equity instruments on EU trading venues of about 0.5% in January 2018 to 2.4% in August 2018. After the first suspensions had expired, ESMA noticed a decline in market share in September 2018. The market share of trading on FBAs has stabilised in the last months around 1.7% of total on-venue trading volume (see Figure 2). At the same time, the market share of trading under waivers subject to the DVC has stabilised around 4% of total on-venue trading.

FIGURE 2 DEVELOPMENT OF TRADING ON FREQUENT BATCH AUCTIONS AND UNDER WAIVERS SUBJECT TO THE DOUBLE VOLUME CAP



Note: Evolution of the frequent batch auction trading share in total trading, in %.
Sources: ESMA.



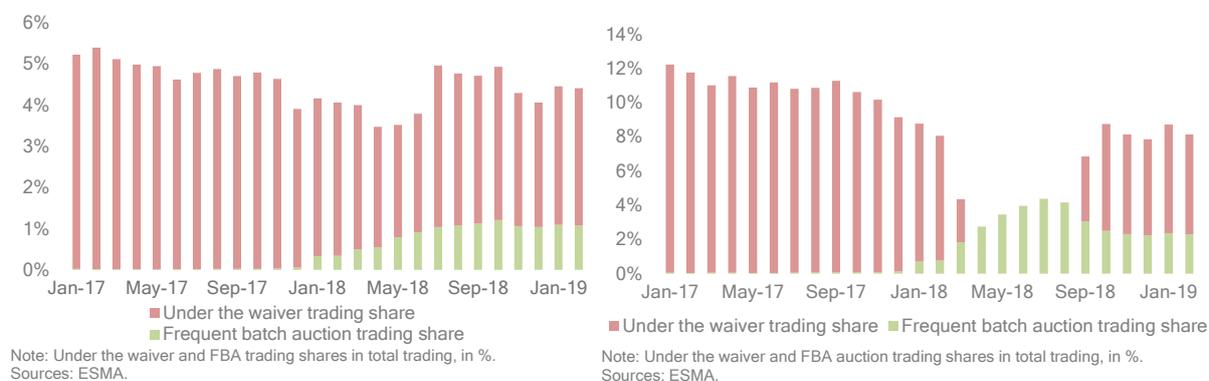
Note: Evolution of the under the waiver trading share in total trading, in %.
Sources: ESMA.

11. This trend is largely driven by the trading in ISINs that are no longer suspended under the DVC (see Figure 3). For ISINs suspended under the DVC in March 2018, FBAs accounted for less than 1% of overall trading in January 2018. As soon as ESMA published the first DVC results, this share increased and reached 4.35% in July 2018. Following the end of the suspension period in September 2018, the trend inverted with an immediate drop to 3.05% in September before reaching 2.28% in February 2019.

12. For ISINs that were never suspended for breaching the DVC limits, the overall trend is similar but at a lower absolute level. FBAs for these ISINs accounted for less than 0.5% of market share in January 2018. Whilst there was a considerable increase during the first few months of application of MiFID II, the market share never reached more than 1.2% and dropped to 1.08% in February 2019.

13. Overall, it can be observed that while FBA trading appears to be correlated to suspensions under the DVC, it remains attractive in the absence of a suspension of waivers under the DVC.

FIGURE 3 DEVELOPMENT OF TRADING ON FREQUENT BATCH AUCTIONS AND UNDER WAIVERS SUBJECT TO THE DVC –ISINS THAT WERE NEVER SUBJECT TO A DVC SUSPENSION (LEFT) AND ISINS THAT WERE SUBJECT TO A SUSPENSION AND FOR WHICH THE SUSPENSION ENDED IN SEPTEMBER 2018 (RIGHT)



14. Most respondents to the call for evidence concurred with ESMA’s analysis of a rising market share of FBAs, with some respondents stressing that the current market share of FBAs is still very low. A few respondents criticised the ESMA analysis as misleading, stressing that the analysis did not include trading volume executed OTC and/or that the market share of FBAs already reached its peak.
15. Concerning the underlying reasons driving this development, more than half of the respondents supported ESMA’s hypothesis of a correlation between the use of FBAs and the suspensions under the DVC. However, only about a quarter of all respondents cited the DVC circumvention as the main reason behind the development, while the majority of respondents considered that also additional factors are behind it. In particular, the possibility of executing at the mid-point or within the best bid offer spread was cited by many respondents as a reason behind the success of FBAs. Moreover, respondents considered that FBAs limit the influence of high frequency trading and therefore contribute to a better trading environment. Other positive features stressed included the lower price movements of FBAs, low information leakage and high execution quality.
16. ESMA agrees that also other factors are driving the success of FBA trading, as highlighted by stakeholders and as documented in the development of the trading for ISINs that were never or are no longer subject to a DVC suspension. Nevertheless, ESMA considers that some of the features mentioned (e.g. execution within the best bid and offer spread) raise questions as to their compatibility with the transparency requirements under MiFID II. These aspects are further discussed in the next section.

4. Specificities of FBA trading systems operating in the EU

17. The call for evidence identified four main characteristics of FBA trading systems: limited pre-trade transparency, short auction duration, price determination within the best bid and offer price, and self-matching features.

18. Respondents broadly agreed that ESMA adequately identified the main characteristics of FBAs while stressing differences in how the characteristics are applied by the various FBA systems. In addition, respondents suggested additional characteristics such as FBAs offering a better execution performance compared to dark pools, enabling less sophisticated market participants to participate in trading and having a limited price impact. While some respondents did not consider that the characteristics of FBAs raise any compliance issues with the MiFIR transparency provisions, others raised some concerns (e.g. the ability to peg and match off-tick may undermine the tick-size regime, midpoint execution should be caught by the DVC).
19. The broad support of stakeholders confirms the four main characteristics identified by ESMA. As to the additional characteristics proposed, ESMA considers that most of them derive, explicitly or implicitly, from one of the four characteristics (e.g. the possibility to peg orders and execute off-tick as well as the limited price impact of FBAs is linked to the price determination process and the application of pre-trade transparency).

4.1. Pre-trade transparency

20. The call for evidence identified two types of FBA systems, resulting in a different application of the pre-trade transparency requirements. For the first type, an auction is initiated upon the receipt of a first order, while pre-trade transparency information is only disclosed once a counter order resulting in a possible match has been submitted during the auction call. At that point in time, and following any change in the order book, information on the indicative price and volume is disclosed.
21. The call for evidence raised concerns that such systems provide no information on trading interest that initiated the auction, resulting in no pre-trade transparency where the auction ends without a possible match or, in case a possible counter order is submitted towards the end of the call period, pre-trade transparency limited to a very short period.
22. The second type of FBA systems initiates auctions only where a potential match has been identified. Pending the identification of a potential match, no pre-trade transparency information is disclosed. Once a potential match has been identified, an auction is initiated, and the system discloses real-time information on the indicative price and volume. Some of those systems lock in the auction price at the beginning of the auction. In addition, all those systems, as well as systems of the first type, allow the use of pegged (limit) orders.
23. The call for evidence raised concerns whether orders submitted pending the start of an auction should be subject to pre-trade transparency unless benefitting from a waiver, and whether the practice of locking-in the auction price at the beginning of the auction, in particular in combination with the practice of pegging orders, allows for genuine pre-trade transparency.
24. Overall, most respondents did not identify pre-trade transparency issues with both types of system. Concerning the first type, respondents stressed that disclosing pre-trade

transparency information already for the initiating order might lead to information leakage. Concerning the second type, some respondents considered them fairer than the first type since they ensure the disclosure of pre-trade transparency during the whole auction call and not only when a potential match has been identified.

25. Some respondents raised concerns with the functioning of the first and/or second type of system. Concerning the first type, while only few respondents were in favour of making the first incoming order subject to pre-trade transparency, some respondents, including those in favour of the first type of system, advocated in favour of disclosing information that an auction has started to attract further liquidity. Views were more polarised on the second type and the practice of locking-in prices at the beginning of an auction and/or the use of orders pegged to the midpoint. About half of the respondents did not see any issues with these practices, in particular for pegged orders, whereas the other half of respondents considered that such systems are non-price forming.
26. While ESMA agrees that market operators should be free to decide which type of system they intend to operate, some regulatory concerns persist. ESMA acknowledges that for the first type of system, it would be challenging to provide pre-trade information on the basis of only one order throughout the whole auction call.
27. Nevertheless, ESMA considers it important that trading venues provide market participants with information that an auction has started. The disclosure of such information should allow other market participants to participate in the auction while at the same time not disclosing too much information thereby addressing concerns of excessive pre-trade transparency leading to information leakage. ESMA intends to provide further guidance on this issue.
28. Concerning the second type of system, ESMA considers that further clarification on the practice of locking-in prices at the start of the auction and on the use of prices pegged to the midpoint is needed. The latter issue also concerns systems of the first type. ESMA's views are presented in section 4.3.
29. The call for evidence also sought stakeholders' view on whether FBA systems should provide information on market/order imbalance. The majority of respondents did not support disclosing such information raising concerns about information leakage and front running, while some respondents were in favour of disclosing some limited information to attract additional liquidity.
30. RTS 1 does currently not require the disclosure of market/order imbalance. Therefore, information on market/order imbalance is limited to systems disclosing it on a voluntary basis. While ESMA takes note of the reluctance of some stakeholders to provide information on the size and side of an imbalance, stakeholders' views were more positive on publishing information indicating the presence or absence of imbalance. In any case, such disclosure requirement would need to be reflected in Level 2 legislation. ESMA will keep this issue in mind for potential future amendments of RTS 1.

4.2. Auction duration

31. In the call for evidence ESMA raised the question whether the auction duration of FBAs is sufficiently long to allow third parties to participate in trading and, more specifically, whether the auction duration should reflect the liquidity and/or type of instruments traded. Moreover, ESMA asked for feedback on how often FBAs result in a match and how many transactions are concluded on average per FBA.
32. The majority of respondents did not consider the auction length as too short to allow for multilateral interaction, including for illiquid instruments, and considered more generally that the determination of the appropriate auction duration should be left to the operators of the trading venues. In particular, respondents highlighted that in continuous order books it is possible to have 2000 order events in 100ms, which is the average duration of a FBA. Furthermore, respondents stressed that the repetitive nature of FBAs ensures that trading opportunities are not lost but, in most cases, rolled over to the next auction.
33. Nevertheless, some respondents questioned whether too short FBAs allow for meaningful price formation and challenged the multilateral nature of FBAs, stressing that in too short FBAs pre-trade transparency becomes meaningless. Moreover, some respondents highlighted the need to distinguish the two types of FBAs operating, i.e. FBAs which start an auction at the reception of the first incoming order vs. FBAs which start an auction once a potential match has been identified.
34. Respondents explained that auctions that start after the identification of a potential match result in the vast majority in at least one trade. FBAs where an auction starts at the submission of the first incoming order have overall a lower success rate but result in a bit more than 2 transactions per successful auction. The main reason for unsuccessful auctions for both types of systems is a movement of the EBBO. Other reasons mentioned were order cancellations or too small order sizes.
35. ESMA agrees with the arguments brought forward by stakeholders that while 100ms might be perceived as a very short period, in a trading environment that is dominated by the use of algorithmic trading techniques, such a period allows for the interaction of third-party trading interest.
36. Moreover, ESMA considers that the clarification suggested in section 4.1 that FBA systems of the first type provide information to the market when an auction call has started, addresses remaining concerns of limited pre-trade transparency for those systems pending the identification of a potential match, thereby ensuring that market participants can participate in the auction during the whole auction call period. Finally, ESMA considers that in any case trading venues are, per Article 18(1) and Article 47(1)(d) of MiFID II, required to specify in their rules the minimum duration of an auction to provide for fair and orderly trading. Therefore, ESMA does not consider necessary taking further action on auction duration at this point.

4.3. Price determination

37. ESMA raised in its call for evidence concerns on three frequent practices which may undermine price formation and/or require a reference price waiver: the use of pegged orders, the use of price band limitations to ensure that the uncross price is always within the EBBO/PBBO, and the practice of locking in prices at the beginning of the auction (see also section 4.1). Market participants were invited to share their views on whether FBAs using these features should be considered as price forming systems and/or whether they resemble reference price systems.

Pegged orders

38. Currently, all FBA systems allow the submission of pegged orders. In addition, the systems allow the submission of limit orders, and, for some systems, market orders. It should be noted that most systems automatically adjust an incoming limit order that is outside the best bid and offer (BBO) so that, for limit buy and sell orders, the limit is set at the respective BBO price prevailing at the point in time the order was submitted ('adjusted limit orders').

39. A slight majority of respondents considered that FBAs are price forming systems and that the possibility to use pegged orders does not weaken price determination. Respondents considered that the use of pegged orders provides certainty of execution, which is viewed as a major advantage of FBAs. Moreover, it also allows for less sophisticated market participants not to be put at a disadvantage against high frequency traders. ESMA does not disagree with these advantages, while noticing that these attributes do not alleviate concerns that the use of pegged orders may weaken price formation.

40. ESMA notes that the responses and data provided by market participants to other questions of the call for evidence do not always support the assessment that FBAs are price forming. For instance, some responses indicated that 99.9% of orders are pegged, that 80% of the orders are crossed at mid-point and that price limitation mechanisms are almost never used in practice since all the orders are pegged – in most circumstances at mid-point.

41. In ESMA's view these responses raise doubts that FBA systems in their current configuration are price forming, mainly due to the use of pegged orders. It appears therefore that under the current configuration many FBA systems allow the execution of orders at mid-point without the use of a pre-trade transparency waiver as required by MiFIR.

42. The responses to the call for evidence showed that market participants were overall in agreement that FBAs, which only cross orders pegged at mid-point and do not allow the submission of limit or market orders should be considered as being non-price forming and are used as a way to circumvent the DVC mechanism and as such undermining the price formation process.

43. ESMA is of the view that FBAs should be genuine price-forming systems to operate without the use of a pre-trade transparency waiver. For a system to provide for a genuine price forming mechanism it should be the result of buy and sell interaction and include the possibility for limit orders to interact within the system. ESMA considers that auction systems that only allow the submission of pegged orders and/or adjusted limit orders should only operate under a reference price waiver.
44. As such, ESMA notes that FBA systems not benefitting from a reference price waiver should allow the submission of (unadjusted) limit and market orders. ESMA will monitor the use of FBA systems in order to ensure that there is no circumvention of this interpretation by de facto only submitting pegged orders to the system, despite the rules allowing for the submission of (unadjusted) limited orders.

Price band limitations

45. In order to ensure that the uncrossing price is at or within the best bid and offer price, all FBA systems use a price bands limitation referring to prices determined by other systems. Respondents considered that this mechanism ensures that the transaction always reflects current market conditions and thereby contributes to orderly trading.
46. The feedback provided to the call for evidence also contained a significant number of respondents which argued that any system which not only allows the submission of pegged orders but also has price band limitations in place referencing to prices determined by other systems, such as the EBBO or PBBO, are de facto reference price systems. In the view of those respondents, a waiver should be required for this type of FBA to operate in a MiFID II compliant way.
47. Some respondents stressed that there should be a distinction between liquid and illiquid instruments since the narrower the bid/offer spread is, the less price movements would occur due to the EBBO price bands.
48. ESMA has looked at data available and noted that for the top 10 liquid instrument constituents of EUROSTOXX 50, the average relative spread¹ from 2 January to 18 March 2019 is 0.00086. The analysis shows that limiting price movements within the EBBO prevents any price movements, thereby further reinforcing concerns that these systems do not contribute to the price formation process. Whilst this is more significant for liquid shares, the same conclusions can be drawn for illiquid instruments as the spreads are also tight – averaging 0.06 during the period analysed - and the price bands contribute to limiting the price formation process.
49. ESMA understands the benefits of the use of price band limitations to ensure orderly trading and is in general supportive of the use of price band limitations. However, ESMA

¹ Relative spread is calculated as $(ASK-BID)/((ASK+BID)/2)$. The calculation included daily aggregated data from 2 January until 18 March 2019.

considers that in order to achieve a meaningful price determination process, price band limitations should not reference to prices determined by other systems.

50. Article 5 of MiFIR introduces the DVC to avoid any negative impact on the price formation process. The use of price band limitations referencing to prices determined by other systems undermines such objective and should be under the restrictions of the DVC.
51. This is further strengthened by the changes introduced by co-legislators in MiFID II by defining more narrowly the boundaries of reference price waiver systems. While the MiFID I approach to reference price systems only referred to prices which are determined in accordance with a reference price generated by another system (for example, by using the EBBO), MiFID II further specifies that the reference price should be the mid-point within the current bid offer prices, thereby limiting the applicability of the waiver.
52. This requirement should be read as further limiting the reference price waiver to the use of the mid-point and not as an acceptance that systems taking the EBBO do not require a waiver.

Locking-in prices at the beginning of an auction

53. The call for evidence asked questions on the specific feature of locking-in prices at the beginning of an auction. Some FBAs analysed by ESMA lock in the auction price at the beginning of the auction which might be perceived as a limitation to the price formation process. The majority of respondents did not consider that such systems are price forming, in particular where these systems allow the use of mid-point pegged orders.
54. ESMA agrees that the practice of locking-in prices at the beginning of an auction may undermine price formation. Furthermore, used in combination with self-matching (see section 4.4), locking-in prices further increases the risk of using FBAs for the formalisation of pre-arranged transactions and the circumvention of the DVC.
55. In ESMA's view this feature should only be used by systems allowing for the submission of (unadjusted) limit orders since this is the only way to ensure the operation of a truly price-forming system.
56. In order to provide certainty to the market and contribute to regulatory convergence, ESMA is considering further clarifying the positions described in this section through guidance to be issued in the course of the next months.

4.4. Self-matching

57. The analysis of different FBA systems showed that all systems allow for self-matching and member/broker preferencing, either as a mandatory or optional feature. The call for evidence defined self-matching as the possibility of two orders from the same member to be matched. Member preferencing was defined as a matching logic which gives matching

preference to opposing orders from the same member, matching them ahead of other orders at the same price.

58. Despite these types of features being in place for some time in central limit order books, they nevertheless raise some concerns since they reduce the likelihood of execution of orders not benefitting from self-matching and/or member preferencing. As such, the call for evidence sought views from market participants to understand to what extent the combination of these functionalities by FBAs might be used to allow for the execution of a trade previously negotiated without the use of the relevant waiver.
59. Respondents to the call for evidence agreed that self-matching functionalities can be used as a way of facilitating the formalisation of privately negotiated transactions. However, respondents stated that the main use of this feature seems to be an efficient way of internalising order flow by lowering costs for final clients.
60. ESMA recognises that there is currently no evidence that these functionalities are being used to formalise negotiated transactions. This can also be observed on the basis of data provided by trading venues showing that only a small percentage of trades from the same member are sent to the auction at the exact same time. In fact, one trading venue has shared that from the 160,000 trades executed in its lit auction in May and June 2018 just below 20 per cent of trades had the same member on both sides. However, only 1.5% of those were within 100 milliseconds (which is the maximum duration of an auction) and from those 160,000 trades only 104 (0.065%) were from the same member, within 100ms of each other and for the same order size.
61. Given the feedback provided and taking into account the statistics that ESMA has at its disposal, ESMA is of the view that this feature is not currently used to circumvent MiFID II provisions, in particular the DVC restrictions. The functionality is used rather as a genuine internalisation of flow and therefore ESMA does not see particular concerns of its use in FBAs (or other systems) as long as trading venues do not allow (for example by actively monitoring its participants' activity) the formalisation of negotiated transactions via self-matching and/or member preferencing.
62. In order to clarify its views to the market and to promote supervisory convergence, ESMA intends to clarify through upcoming guidance that the use of self-matching should not be, in any circumstances, used to formalise trades privately negotiated but only as genuine internalisation of flow.

5. General developments in equity trading

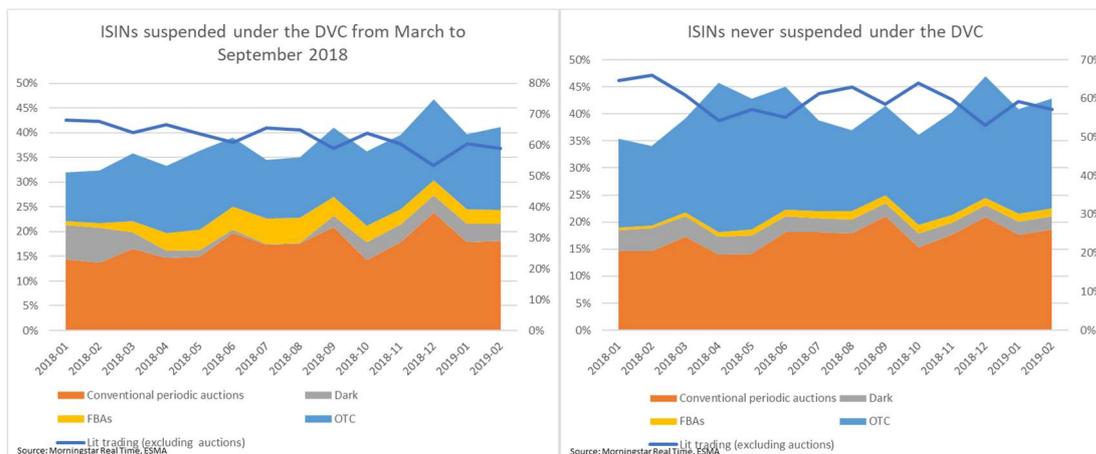
63. In the call for evidence, ESMA provided an analysis on whether MiFID II delivered on the objectives to increase transparency on equity markets. Whilst it was pointed out that it was too early to draw any firm conclusions, the call for evidence noted that there had been no shift of trading into more transparent venues. In order to further assess the development

of trading under MiFID II, ESMA updated its analysis by including available data up to February 2019.

64. As highlighted in the call for evidence, it seems that some of the trading under the suspended waivers has moved to FBAs, conventional auctions and OTC trading (including systematic internaliser (SI) trading).
65. Figure 4² shows the development of trading from January 2018 to February 2019 for ISINs that were suspended under the DVC as well as for ISINs that were never suspended under the DVC. The chart on the left side includes 365 ISINs that have been suspended at least once since 12 March 2018, whereas the chart on the right side includes 296 ISINs that were never suspended under the DVC.
66. The line in blue representing lit trading in percentage of total EU trading volume, excluding trading under conventional periodic auctions and FBAs, is shown on the right vertical axis of each chart. The EU trading volume on periodic auctions, conventional auctions, under a waiver from pre-trade transparency and OTC in percentage of the total trading volume is shown on the left vertical axis of both charts. The trading volume under both the right vertical axis and the left vertical axis always adds up to 100 percent.
67. Figure 4 broadly confirms the trend observed when publishing the call for evidence. There was a drop in the share of lit trading (excluding trading on FBAs and conventional auctions) of around 10 percentage points throughout the first year of application of MiFID II (68% in January 2018 vs. 58% in February 2019). This conclusion is also applicable for those shares that were never banned although at a smaller scale (7 percentage points). Trading volume on conventional periodic auctions continued its overall increasing trend, with no obvious difference in trend between ISINs suspended under the DVC and ISINs that were never suspended. Concerning FBAs, the data confirms the observations of section 3 that FBAs are more frequently used when trading ISINs that have been suspended under the DVC.
68. It seems therefore that the intention of MiFID II of increasing transparency has not been fully achieved. In particular, the application of the DVC mechanism so far has not increased lit trading in the EU but rather moved trading to periodic auctions (FBAs and conventional auctions) and OTC (including SIs).

FIGURE 4 DEVELOPMENT OF TRADING FOR ISINs SUSPENDED UNDER THE DVC FROM MARCH TO SEPTEMBER 2018 (LEFT) AND ISINs NEVER SUSPENDED UNDER THE DVC (RIGHT)

² Please note that the figures are based on a sub-sample of ISINs (600 ISINs based on the constituents of the STOXX Europe 200 LARGE/MIC/SMALL caps) which are then extrapolated to the whole universe of ISINs within the scope of the DVC.



69. The responses to the call for evidence showed that the majority of respondents follow a best execution policy, which includes factors such as price, size, speed, transaction costs and market impact. Some respondents noted that FBAs have an advantage due to their lower costs, favourable price and reversion behaviour that lowers market impact.
70. Furthermore, the vast majority of respondents noted that FBAs are systems that benefitted most from the introduction of the DVC although other execution types, such as conventional auction, LIS dark books and SIs also benefitted from the DVC mechanism. Most respondents to the call for evidence believed that prescribing stricter requirements could lead to a shift of volumes towards SIs or dark trading, mainly under the LIS waiver. Such requirements could potentially deteriorate the execution outcomes for clients.
71. ESMA is supportive of trading venues' initiatives to develop new trading protocols by providing technological innovations with the aim of increasing the quality of execution and aiming ultimately to benefit end investors. FBAs seem to be a response to the new requirements contained in MiFID II which have gained traction and acceptance by investors.
72. However, these types of systems should be developed in line with the requirements contained in MiFID II, mainly on pre-trade transparency and the use of waivers from pre-trade transparency. The result of the call for evidence is to ensure that FBAs are in line with MiFID II legislation and not used as a way to circumvent the regulatory intent. As such, ESMA's objective is to maintain a proper balance between the requirements contained in EU law, and therefore ensuring a level playing field between different means of execution, and support innovation in trading protocols and market structures.
73. ESMA will look at the broader effects of the MiFID II transparency regime in the upcoming MiFID II review reports. These reports will also look at OTC trading, in particular SI trading. ESMA intends to consult on these issues in due course.

Annex: Feedback on the call for evidence

Q1: Do you agree with the two main differences identified to distinguish conventional periodic auctions from frequent batch auctions? If not, please explain why.

1. The majority of the respondents agreed with the two identified differences, even though some remarks were made to the criteria applied in the call for evidence. Despite there being a general consensus that the duration of FBAs is short, most participants highlighted that the advanced systems provide enough time to respond and interact in the trading protocol, when compared to CLOB. According to their view a duration of 100 milliseconds is an appropriate amount of time for modern trading systems to be able to react to. Three of the respondents stressed that the two differences identified must be considered cumulatively, meaning that an FBA is an auction that has both a very limited duration and is not scheduled. Besides this, participants emphasised some relevant similarities for the two types of auctions, such as price-formation, where the both seek to maximise the executable quantity and then apply a fair tie-breaker rule, if required, and price volatility controls.
2. Some respondents however noted some exceptions to the definitions presented by ESMA. First, not all CPAs are scheduled by the venue as, for example, an auction can be held following a volatility event which is triggered by the movement of a stock beyond its accepted price band. Furthermore, one trading venue mentioned that the definition might be too narrow, as there are cases of scheduled very short duration auctions that do not fall in either of the types. Finally, another trading venue described a Micro Auction, which fulfils both criteria of a FBA but serves a different purpose – designed as a symmetrical speed-bump to protect the market maker from any latency disadvantages compared to other participants in a normal CLOB. Contrarily to the FBA, it has full pre-trade transparency and applies to the lit order book.
3. Furthermore, some additional differences were mentioned:
 - FBAs typically operate contemporaneously with lit continuous markets, whereas conventional periodic auctions typically have their price-forming call periods when continuous markets are closed/halted.;
 - one of the respondents mentioned that only CPAs are price-forming, as the price results from supply and demand of orders, while FBAs are referenced to European Best Bid and Offer Price (EBBO) or Primary Book Best Bid Offer Price (PBBO) not contributing to price discovery;
 - self-matching, lack of pre-trade transparency and off-tick pegging/matching were also stated as features of FBAs;
 - for FBAs there is broker/member preferencing to favour the applications.

4. There were also some respondents that did not agree with ESMA's approach, providing the below considerations:
- The price is one of the main differences - CPAs are primarily used as a mechanism for setting a reference price at a time when continuous trading is predominantly halted, such as the closing price or resuming trading with a volatility auction, whereas FBA run in parallel to continuous order book trading and are required to reflect market prices as well as being price forming.
 - One respondent explained how FBAs are triggered as soon as one order is submitted and, thus, participants know by definition that the auction is running as their order entry is either joining or starting an auction, which makes it analogous to conventional auctions that have a known start time.
 - They also disagreed with the definition of "very short duration" as FBAs offer a less time sensitive environment when compared to continuous trading.
 - Another participant disagreed with the differentiation of the two types of auctions, as there is no basis for it in the market models described in the regulation.
 - A third respondent mentioned that the triggering of the auction for FBAs can actually happen in frequent, scheduled intervals, which makes it different from trading in the CLOB in the sense that time is put into a discrete unit and competition is based on price and not on speed. Although time is treated differently, the two models are considered to be very similar.

Q2: Do you agree with the observation of a rising market share for equity trading on frequent batch auctions?

5. More than half of the respondents agreed that the market share of FBAs had indeed risen, while a small number stated that ESMA's analysis of market share was a misuse of statistics (citing reasons such as too many excluded factors). The rest of responses (one third) did not state a clear view, but instead stressed the insignificance of the current market share of FBAs. For all those three answer types, respondents could not be grouped together, with different views across the sectors of banks, venues or associations.
6. Each of those respondents disputing ESMA's statistical analysis hold their own different views:
- One agrees to a rise in market share but feels that ESMA's exclusion of large amounts of trading activity (OTC and SI trading) led to an inflated view of FBA activity. If these activities were included, FBAs would have accounted for only 1.6% of the overall market in the first 6 months of DVC application, according to Fidessa data.
 - One states that FBAs had already attracted their maximum market share in the past and has recently not gained any more.

- One states that while FBAs may have gained market share in the first half of 2018, their market share has levelled out in the second half.
 - Finally, one respondent goes as far as calling ESMA's analysis "statistically incorrect" because the FBA's market share has "remained very low at 1.5-3%". However, those numbers are close to what ESMA had presented.
7. Most other respondents relied on the data provided by ESMA in its call for evidence. Only two respondents from the banking sector used their own data, with one reaching the same figures as ESMA and the other slightly higher figures within the realm of statistical insignificance (observing an FBA market share of 2.64% in August 2018 compared to ESMA's 2.3%). Two other respondents provided additional figures observing a 2% market share for FBAs on the Nordic market.

Q3: What are in your view the main factors driving this development?

8. While more than half of respondents supported ESMA's hypothesis of a correlation between usage of FBAs and capping by the DVC in Question 2, only one quarter of all respondents cited DVC circumvention as the main reason behind the development. The other respondents saw it more as an additional feature, which attracted interest only in combination with the positive characteristics of FBAs (discussed below). Three respondents stated that main drivers could not be identified due to the short observation period.
9. Three respondents went as far as calling FBAs the surrogate for broker crossing networks.
10. The positive characteristics cited of FBAs were mentioned across all different groups of respondents. Five features were shared across different responses:
- The possibility of executing at mid-point or within the best bid offer spread was cited by more than one third of respondents.
 - The same number of respondents claimed that FBAs minimised the influence of high frequency trading and therefore led to a less toxic trading environment.
 - A slightly lower number of respondents cited the lowered price movement as a positive feature.
 - One third of respondents stressed the high execution quality of FBAs often cited with regards to the best execution requirement introduced by MiFID II.
 - Five respondents cited less information leakage (due to limited pre-trade transparency) as a positive feature, often combined with point 3.

Q4: Do you agree with the four characteristics identified by ESMA? Please explain.

Q5: Do you consider that other characteristics of frequent batch auctions may explain their success and/or raise questions in terms of compatibility with the MiFID II transparency provisions? Please explain.

Combined summary of Q4 and Q5

11. Most respondents agree that ESMA has adequately identified the main characteristics of FBA trading systems. Several mention that there are differences across FBAs in how those characteristics are applied.
12. The following characteristics have been also cited by stakeholders:
 - execution performance: several stakeholders argue that FBAs offer a better trading outcome for non-low latency investors (compared to dark trading), due to the non-continuous nature of trading and the prioritisation of volume over time;
 - the ability to peg and match off-tick, which helps less sophisticated clients to have their orders filled at prices close to those of the lit market. This feature is considered by others as potentially undermining the objective of the tick-size regime;
 - the limitation of price impact - the ability to protect orders from the potential adverse effect on execution quality of greater information disclosure;
 - the possibility to introduce “speed bumps” to reduce latency effects to which investors might be exposed on exchanges;
 - the use of minimal executable quantity;
 - the type of orders allowed;
13. Several stakeholders refute the assumption that the special features of FBAs raise compliance issues with the transparency provisions in MiFID II/MiFIR, without necessarily providing specific arguments to justify this answer.
14. One respondent noted that off-tick matching is a way to improve price execution compared to execution on regulated markets or MTFs which are subject to the tick-size regime, and that such midpoint execution would normally be caught by the double-volume cap (NT or RP waivers). On the other hand, some respondents encourage regulators to further examine whether FBAs should be subject to the tick-size regime.
15. Finally, some other respondents stressed the idea that periodic auctions should not be designed to circumvent the algorithmic trading or high frequency trading obligations, the DVC, or more generally the pre-trade transparency requirements.

Q6: What is your view on the level of pre-trade transparency applied by systems that initiate auctions upon the receipt of a first order? In particular, should pre-trade

transparency already be applied as of the start of an auction, irrespectively of whether there is a potential match or not? Please explain.

16. The large majority of respondents representing the whole spectrum of market participants, and in particular the buy-side, were not in favour of disclosing pre-trade transparency information upon the receipt of the first order. The following arguments were brought forward:

- disclosing pre-trade transparency where there is only one order could lead to information leakage since FBAs are operated concurrently with CLOBs. Thereby, not disclosing any information would protect members who are willing to rest liquidity while continuous trading is in progress. This argument was raised in most responses.
- A few respondents also highlight that pre-trade transparency on order books is often significantly shorter than for FBAs.
- A few consider it as a pragmatic solution to reach an 'appropriate' level of pre-trade transparency and allowing FBAs to be attractive trading systems.

17. Some of those respondents not in favour of applying pre-trade transparency at the level of the first order, are in favour of disclosing information that an auction has started. Most respondents were not in favour of publishing information on order imbalance.

18. Only a minority of respondents, again representing the whole spectrum of market participants, were in favour of making already the first incoming order subject to pre-trade transparency. The main argument for this approach is that the application of pre-trade transparency for the first incoming order informs market participants that an auction has started, thereby facilitating the gathering of interest in a single uncross event. Respondents acknowledged that it would be challenging to publish the potential execution price and quantity in the case of only one order and suggested in such cases the publication of other information (e.g. start time, imbalance information, announce that there is trading interest without disclosing the size).

19. One respondent suggested that FBAs should publish at the end of the auction information on all executed orders as well as all remaining outstanding orders. Some respondents consider that an auction should only start once there is a potential match.

Q7: What is your view on the level of pre-trade transparency applied by systems that initiate auctions upon the identification of a possible match? In particular, do you consider that systems locking in prices at the beginning and/or allowing the submission of orders pegged to the midpoint meet the pre-trade transparency requirements? Please explain.

20. Most respondents were supportive of FBA systems initiating an auction following the identification of a possible match. In their view, this is compliant with L1 and L2 legislation. Some respondents mentioned that those systems are fairer than FBA systems initiating an

auction at the reception of the first order since it allows for the disclosure of PTT during the whole auction period. Only very few respondents were not in favour of this type of FBA, with some raising concerns that these systems would allow for excessive pre-trade transparency that would enable potential gaming.

21. Respondents had more mixed views on the use of orders pegged to the mid-point and/or the practice of locking-in prices at the beginning of the auction.
22. Pegging of orders to the mid-point: the majority of respondents were supportive of this practice. Supportive arguments included: pegging orders allows less sophisticated market participants to participate in trading since it removes technology/latency advantages; pegged orders in FBAs are like limit orders since they'll be executed at mid-point or better, whereas orders in reference price waivers will always be executed at mid-point. Pegged orders are hence contributing to price formation in FBAs. Moreover, respondents (mostly buy side firms) used the opportunity to praise the advantages of execution at mid-point in general. Several respondents considered that FBA systems that allow the use of orders pegged to the mid-point do not contribute to price formation and that these types of orders should require the use of a reference price waiver.
23. Locking-in prices: about half of the respondents replying to this question did not see any issues with this practice and stressed the positive effects of this approach (price certainty for the duration of the auction, enables slower market participants to interact with available liquidity, reduces the ability for price gaming, symmetrical speedbump). On the other hand, about the same number of respondents considered that locking prices at the start of the auction would undermine price formation. Some respondents highlighted that the lack of price formation is further increased by the use of orders pegged to the mid-point.

Q8: Would you see benefit in frequent batch auction systems providing information on market/order imbalance? Please explain.

24. More than half of the respondents were not in favour of mandatorily requiring the disclosure of imbalance information and were of the opinion that this decision should be left to the discretion of FBA operators. Respondents were concerned that imbalance information might lead to information leakage and allow front running, in particular since FBAs are run in parallel to continuous trading. Some respondents considered that it would lead to more noise by participants cancelling and resubmitting orders (views were mixed as to whether this would lead to larger or smaller orders). One respondent stated that providing information on order imbalance would not provide any added value since the auction duration was too short).
25. Slightly less than one third of respondents were in favour of disclosing some information on order imbalance. In their view this would help attract additional liquidity into each auction and is an important element to decide whether to join an auction or not (without such information, the auction was considered to behave like a dark pool). Views were however different concerning the type of order imbalance information to be disclosed. Some respondents were in favour of disclosing information on the size and side of the imbalance,

whereas other respondents recommended to limit the information to the fact that there is presence/absence of imbalance (without any further info) to limit information leakage.

Q9: Do you consider the auction length of frequent batch auctions as appropriate? In particular, how does the short auction length contribute to fair and orderly trading? Please explain.

26. The majority of respondents were of the view that FBA length is not an issue. Some were more explicit and clarify that auctions that run for at least 100 ms are long enough to allow for other participants to participate.
27. Responses highlighted in particular that, in modern markets, orders can be placed within fractions of milliseconds. By way of comparison, continuous order books typically run at 50 microseconds and are therefore able to process 2000 order events in 100 ms (i.e. the standard duration of an FBA). As an example, one respondent explained that on its systems 10% of the FBAs (which last between 100 and 125ms) grow in size as a result of trading members reacting to pre-trade transparency data.
28. Respondents added that participation in FBAs does not currently require to use the fastest technology possible but only standard algorithmic trading techniques (e.g. algorithms and smart order routers) which are commonly used in equity markets today. Some also noted that longer duration could result in the withdrawal of orders and each participant seeking liquidity on alternative venues. For this reason, longer FBAs might in their view paradoxically lead to lower participation.
29. One respondent noted that the concept was also a little misleading since, on many FBA systems, orders are originating from an auction order book and most of the orders are resting for long periods until matching opportunities are found.
30. For auctions with a price that is fixed or aligned to the European Best Bid and Offer (EBBO), some respondents stressed that the length of an auction should be reasonably linked to the volatility to make sure that the price still reflects prevailing market conditions at the time of execution. Some also mentioned the risk of price manipulation in case of too long FBAs.
31. Lastly, according to some respondents, the repetitive nature of FBAs ensures that trading opportunities are not lost (in case they cannot be sent swiftly enough) but roll over into the next auction. Some respondents explicitly recommend ESMA not to specify any minimum duration.
32. Some responses were however more tempered considering that we might have reached a floor. Some of those (including HFTs) questioned whether too short FBAs allow meaningful price formation and participation calling into question the multilateral nature of those systems. They also stressed that in too short FBAs, the concept of pre-trade transparency might become meaningless. One respondent clarified that on its systems, conventional price forming periodic auctions have a two minute duration.

33. More generally, respondents highlighted the advantages of FBAs and in particular how they prevent HFT arbitrage (e.g. random duration).

Q10: Would you see benefits in having a longer auction duration? Do you consider that the auction duration should take into account the liquidity and/or type of instruments traded (e.g. a longer auction duration for less liquid instruments)? Please explain.

34. In line with the responses provided to the preceding question, the majority of respondents did not raise specific issues with the current duration (between 50ms to 150ms on average) and would not recommend imposing longer duration. A majority of views expressed concurred that the auction duration should be left to market operators.

35. Amongst those explicitly against a longer duration, some noted that longer FBAs may lead to more unsuccessful auctions due to uncrossing price drifting outside the EBBO and therefore being ultimately harmful to execution quality. They also stressed that longer FBAs could indirectly impact other execution systems and platforms (such as lit continuous order books).

36. Some highlighted that this would also represent increased opportunity costs for investors and brokers, locking in their assets for a longer time period, and ultimately increased trading costs.

37. More broadly, those opposed to prescribing longer duration considered that it would put into question the very nature of FBAs which are used by investors who want to execute transactions with a high degree of urgency and a low market impact. This could potentially allow more gaming by high frequency traders.

38. One respondent argued that if minimum transparency periods were to be mandated, this would have to be applied to all execution venues/platforms, including CLOBs.

39. The majority of responses also discarded the idea to have longer duration for illiquid instruments noting that (i) illiquid instruments are also those where there are more opportunities to interact or manipulate thinly populated order books; (ii) it would add unnecessary complexity; and, (iii) algorithms are used for both liquid and illiquid instruments and there is no obvious reason to differentiate between the two.

40. Some respondents seemed however favourable to a minimum length for FBAs. This would in their view ensure (i) more consistency and harmonisation across venues; and, (ii) that pre-trade transparency is meaningful and can be consolidated. Some respondents however stressed the importance to distinguish between the different types of FBAs and, more specifically, when duration starts (duration triggered when there are matching orders vs. duration that starts there are matching orders).

41. One respondent highlighted that the Budish, Crampton & Shim research suggests considering as a possible baseline a minimum of 135ms global round trip information travel time based on the speed of light).

42. Finally, some respondents, while considering that longer duration might be beneficial, stressed that this would not be enough to ensure appropriate price formation and ensure that the systems are truly multilateral. They mentioned in particular the limited price formation (fixed price or EBBO) and the member preferencing that are often available on FBAs.

Q11: In your experience, how often do frequent batch auctions result in a match, and how many transactions are executed per frequent batch auction on average?

43. The vast majority of responses received are inconclusive. Other responses are very difficult to compare (different systems, different assumptions and different metrics) and sometimes contradictory.

44. According to one trading venue, for auctions with at least one indicative uncrossing orders during its duration, 70% result in a transaction. The others failed due to (i) cancelling of orders; (ii) pegged price moving outside the imposed collar; and, (iii) size of orders being too small. The average number of transactions per successful auction is 2.47. For the same venue one respondent stressed that 96.5% of orders in periodic auction are unfilled and concluding that matches on periodic auctions for resting orders are very infrequent (in particular compared to lit order books). Another respondent estimated that fill rate for this venue at circa 60%.

45. Another venue claimed that in the last quarter of 2018, auctions resulted in a trade in 97.4% of the cases (orders fully executed in 80% of the cases). They argued that the main reason for failed auction is a movement of the EBBO. In Q3 2018, 9.6% of the auctions have resulted in a more than one trade.

46. Another venue claimed that match frequency on its system improved from 85% to 100%. Around 4-5% of the auctions have more than one trade.

47. One venue estimated that started auctions on its platforms result in a match 70% of the time with one transaction on average per auction.

48. On another venue where auctions are only triggered when there is a match (hence 100% execution rate), there is "in general" 2 trades per auction.

49. One last venue clarifies that 99.2% of the auctions on its systems result in trades (the remaining failing due to the price moving outside the established price collars).

50. Finally, one respondent noted that many FBAs only run when there is one potential uncross established. Some systems locked in the initial orders and hence result in a transaction in 100% of the cases.

Q12: Do you consider frequent batch auction systems as non-price forming systems? Please explain. Should a characteristic of any trading system be that it is always price forming in order to operate without a waiver? Please explain.

51. A small majority of respondents are of the view that FBAs are truly price forming since the auction price is determined by a price algorithm that moves throughout the auction. Those respondents also argue that the EBBO/PBBO is used as a protective collar and contributes to orderly trading and protects from potential price volatility. Further, some participants are of the view that even the use of pegged order, if combined with other features, should also be considered as price forming.
52. A couple of respondents say that even when orders are pegged at mid-point they can also be price forming. One respondent argues that mid-point should be allowed to be used as a limit price.
53. Other respondents however, consider that FBAs are in fact non-price forming and resemble reference price (RP) facilities. These respondents argue that FBAs rely on price data imported from other venues, are pre-matched and pegged to reference prices. These systems should therefore operate under a waiver. Some also defend that only those FBA with orders pegged to the mid-point should be operated using a waiver whilst other auction using different characteristics do contribute to price formation.
54. Some respondents pointed that not all non-price forming systems have necessarily to operate under a waiver. For example, one respondent points out that even where a system trades at a reference price, it does not necessarily need a waiver if the reference price is made pre-trade transparent.
55. Respondents also consider that an important aspect to take into account is the duration of the auction. Very short duration does not allow for buy and sell orders to build in the system and move prices. However, it should be noted that a 100ms duration should allow for 400-1000 orders to be placed due to recent technological developments.

Q13: Do you consider that these functionalities resemble reference price systems (in particular when matching transaction at mid-point)? Please explain.

56. As for Q12, a small majority of respondents do not consider FBAs to resemble RP systems. These respondents argue that FBAs are price-forming and therefore work differently from RP systems.
57. One respondent states that only 20% of trades are uncrossed away from the PBBO mid.
58. There is a split of views regarding those FBAs that execute at mid-point. Whilst some respondents argue that this should be allowed in any circumstances, given mid-point execution is globally recognised as a fair price, desirable and widely accepted it should be allowed without the need of a waiver; others however argue that as long as FBAs execute at mid-point, a pre-trade transparency waiver should be requested.

Q14: How do frequent batch auctions ensure multilaterality and interactions of trading interests in the price formation process (e.g. diversity of participating members, average number of participants, distribution of orders involved per transaction)?

59. The vast majority of respondents consider that FBAs are truly multilateral as bid and offer orders are able to interact within the system. Some respondents consider the key to assess whether FBAs are truly multilateral lies with the duration of the auction. In cases where the duration is long enough, there is truly price formation and members can interact within the system contributing to both not be required to operate under a waiver and ensure multilaterality.
60. One respondent has pointed out that despite FBAs being currently designed for technological sophisticated members, they are also available to manual users via brokers and therefore multilaterality should not be put into question.
61. Respondents also consider that FBAs where member preferencing is allowed do not affect multilaterality. Further, data shows that only a very small portion of matches occur using a self-match functionality which is further developed in Q17-19 below.
62. Those arguing that FBAs are not truly multilateral refer to the short duration and that FBAs are designed to minimise the number of participants per auction. Furthermore, these respondents consider that FBAs tend to be designed to ensure that one participant is able to match with itself.

Q15: Do you consider that the possibility of pegged orders might weaken the price determination logic? If yes, which measures would you recommend?

63. The majority of respondents do not consider that the possibility of pegged orders might weaken the price determination logic.
64. The main arguments supporting this view are the following:
- the peg order type provides an option for firms that would otherwise be at a disadvantage to more technologically sophisticated firms that are capable of recreating a pegged order by consistently amending their order pricing. Prohibiting pegs would reintroduce the technology/latency advantage that auctions were in part developed to address;
 - the equilibrium price is based on all the orders in the book (peg, limit and market orders). The price chosen is determined by the price at which executable volume is maximised based on the limit prices from all order types equally. On the other hand, a reference price system is incapable of executing at any price other than the reference price used for price determination. Unlike a reference price system that will always uncross at the mid of the Primary Best Bid and Offer (PBBO), in Q3 (2018) 20.67% average daily notional value traded in a specific FBA uncrossed at a price away from the PBBO mid-price;
 - the usage of pegs reduces the message traffic and quote-to-trade ratio market-wide, because a buyer (seller) can express a willingness to buy at the prevailing bid (ask) with a single order, rather than a series of limit orders which must be updated over time.

Furthermore, while pegged orders do not have explicit price limits, they still contribute to the overall supply of / demand for shares at each price point in the market, which determines the price of trades;

- Peg orders are not a guarantee of a matching price and the use of mid-point constraints within FBA does not appear to contribute to the negative effects of a small tick size. The introduction of an order constrained to mid-point does not result in a new bid (which in any case would have a significant outbidding cost at 50% of the spread) and liquidity can aggregate effectively, since there is only one published indicative price from the venue.

65. A minority of respondents consider that the possibility of pegged orders might weaken the price determination logic for the following reasons:

- as soon as one pegs an order, it becomes a reference price system, this limits the uncross price to EBBO or PBBO and it does not make sense if the auction is intended to be price forming;
- price referencing on primary market harms the process of price determination by importing prices set on other venues and preventing the FBA flow to interact with the market participants on the primary market/continuous limit order books. It shall as well be noted that there is no obstacle for those trades not to take place in the continuous lit order book. Indeed, the FCA notices that “It is possible that a lower level of pre-trade transparency is more attractive to market participants who are concerned about market impact and previously traded in the dark but have been forced to change their trading patterns by the DVC.” However, according to Rosenblatt Securities, currently the average trade size is €5,788 on FBAs. In comparison, the average trade size is almost €5,000 on EU lit venues (above €11,000 on a specific TV). The market impact, information leakage and order size do not appear to be the motivation to trade on FBAs.

66. Among those a few respondents also suggested possible solutions. One would be to prohibit the use of pegged orders in FBAs; other to count these transactions in the DVC calculations.

67. Finally, the initiative to define a common approach for FBAs was welcome across respondents.

Q16: How frequently are mechanisms used to prevent an auction uncross at a price outside the EBBO or PBBO (e.g. patterns and occurrences)?

68. Only a small number of respondents provided some information.

69. In general, it seems that FBAs prevent in most of the cases to price outside the EBBO or PBBO. Nevertheless, it also seems that a very high percentage of FBAs conclude with transactions.

70. Below a more detailed overview of some of the data provided by respondents:

- on average for the period 2018-01-01 to 2018-11-30 we have observed for auctions that displayed at least one indicative uncrossing price during its duration, only 0.05% failed due to the indicative uncrossing price drifting outside the EBBO collar;
- almost never at present – as all the orders are pegged – generally to mid;
- during Q4 2018 trading activity in our auction resulted in a trade in 97.4% of auctions with only 2.6% of auctions terminating without a trade being undertaken due to a movement of the EBBO or PBBO;
- the mechanism to prevent an auction uncross at a price outside the PBBO (EBBO is not used in our market) has hardly ever been used. The main reason is that the vast majority (> 99.9%) of the orders are pegged orders;
- all frequent batch auction markets apply an EBBO/PBBO collar outside of which trades cannot occur (4 respondents);
- 99.22% of all auctions (taken in September and October 2018) resulted in trades. The remaining 0.78% of auctions did not result in trades due to price collars preventing execution prices outside of the primary best bid and best offer price. FBAs conclude transactions at or within the best bid and offer price which is consistent with trading in the CLOB, SI and under a waiver which is essential for investment firms to offer best execution to end investors.

Q17: What are your views on self-matching functionalities, and in particular member preferencing, in the context of frequent batch auction systems taking into account their short auction length? Do self-matching functionalities, and in particular member preferencing, coupled with other features of frequent batch auctions (short duration, locked-in prices) contribute to fair and orderly trading?

71. Of those that provided a view, the consensus was towards member preferencing having a positive effect towards lowering execution costs for investors. Of those that expressed concerns these were aligned with the opinion that the practice allowed for circumvention of the DVC, particularly when the rapid nature of the auctions is concurrently considered.
72. A large number of respondents highlighted that member preferencing is currently not considered problematic in other market structures, and as such consider it potentially discriminatory if it is only scrutinised in the context of FBAs and so should be looked at broadly, or not at all.
73. Respondents additionally highlighted that there is currently a low proportion of member preferencing within FBAs but in any case it would be desirable for ESMA to monitor this.

Q18: Do you consider that self-matching functionalities, and in particular member preferencing, on frequent batch auction systems may be used to formalise privately negotiated transactions?

74. The majority of respondents felt that self-matching functionalities found in some FBA systems could facilitate the formalisation of privately negotiated transactions. Simultaneously however, some respondents also pointed out that the possibility of using these systems in such a manner does not mean they systemically are. These respondents pointed to other elements of FBAs that actively reduce the guarantee of a matched cross. Respondents further highlighted that the presence of self-matching with FBAs does not presuppose that there has been a privately negotiated transaction.

75. There was a broad view that a member preferencing functionality does convey a genuine economic benefit to end users in the form of reduced costs for internalised flow (in genuine incidences of internalisation, and not bilateral trade formalisation). In these instances, some respondents felt that broker preferencing contributed to improved execution quality.

Q19: In your opinion, is the feature of member preferencing indispensable for the success observed in frequent batch auction systems since the application of MiFID II?

76. A large majority of the respondents consider member preferencing to be a useful feature of FBAs; however, they do not view it as indispensable and therefore crucial to their success.

77. Those that offered evidence supporting this view pointed to the relatively small proportion of transactions resulting from FBA that are subject to member preferencing.

78. A limited number of respondents highlighted potential DVC avoidance as a reason for their recent success, whilst those that did not provide a view generally asked for ESMA to take a carefully considered approach to any potential future course of action.

Q20: How do you determine on which execution venues to conclude transactions. Please explain.

79. The majority of the respondents follow a 'best execution policy' that is in accordance with the client's specific instructions and objective of the order, while meeting the best interest of the industry to maintain flexibility and different options while trading.

80. The best execution factors include price, size, speed and likelihood of execution, urgency and timing risk. Further criteria are taken into consideration, such as transaction costs and market impact, in which FBAs have an advantage due to its favourable price and reversion behaviour.

81. One respondent mentioned broker discretion and quantitative assessment of the overall quality of execution as a strategy to achieve 'best execution'.

82. One of the replies specified that the execution quality is based on explicit costs (broker commissions, venue trading fees, clearing and settlement costs) and implicit costs (spread paid, likelihood of fill combined with opportunity costs of non-fills). In the case of FBAs, they tend to have lower explicit costs.

83. Because of the above-mentioned advantages, the investors might see considerable benefits in the trading profile of the FBAs and provide specific instructions to route orders to this type of auction. Similarly, as the trading venues see favourable trading outcomes for FBAs, they might use this information as a routing strategy to deliver best execution.

Q21: Which execution venues attracted the most trading volume following the suspension of dark trading venues under the DVC and why? Please substantiate your answer by quantitative data where available.

84. The vast majority of respondents confirm that FBAs are a beneficiary of increased trading volume following DVC introduction. However, the respondents consider also other execution venues as beneficiaries including conventional auctions, dark trading under LIS waiver and SI trading.

85. Some of the views were based on analytical evidence: one respondent calculated an increase of 3% of total trading for both FBA and conventional auctions due to DVC; another saw a 2% increase in FBA and in SI trading, as well as an increase in trading in stocks that were subject to DVC ban on lit markets (CLOB and conventional auctions) from 57% to 78%; a further stakeholder observed a two-fold increase in trading under LIS waiver from 4.43% of addressable liquidity to 10.28%; other saw a 2% increase in trading on conventional auctions; another bank calculated the main increase in FBA of 2.7% and a smaller increase in conventional auctions of 1.27%, while explaining that SI trading volumes are unavailable for their analysis.

86. Some respondents noticed that volumes traded under waivers have different trading objective than the trading on lit markets, therefore it is unlikely to observe a trading pattern in which banned stocks would migrate to conventional lit trading. Some respondents believe that FBAs are not a response to the DVC but a new innovative method of trading which increases in volumes also for stocks which are not subject to the DVC.

87. Few respondents mentioned that the observation period is too short to draw a firm conclusion and that they consider an FBA a minor part of trading.

Q22: Should trading under frequent batch auctions become subject to stricter requirements in the future, to which type of execution venues do you expect the current trading volume under frequent batch auctions to migrate to?

88. Among those respondents who provided answers to the question the vast majority believes that stricter requirements would lead to migration of volumes to either SIs or to dark trading e.g. under the LIS waiver. Only few respondents mentioned lit trading as a possible migration outcome.

89. Most of the respondents used this opportunity also to explain why stricter requirements for FBAs should not be imposed at this point by ESMA, and that such requirements would deteriorate the execution outcomes for clients.