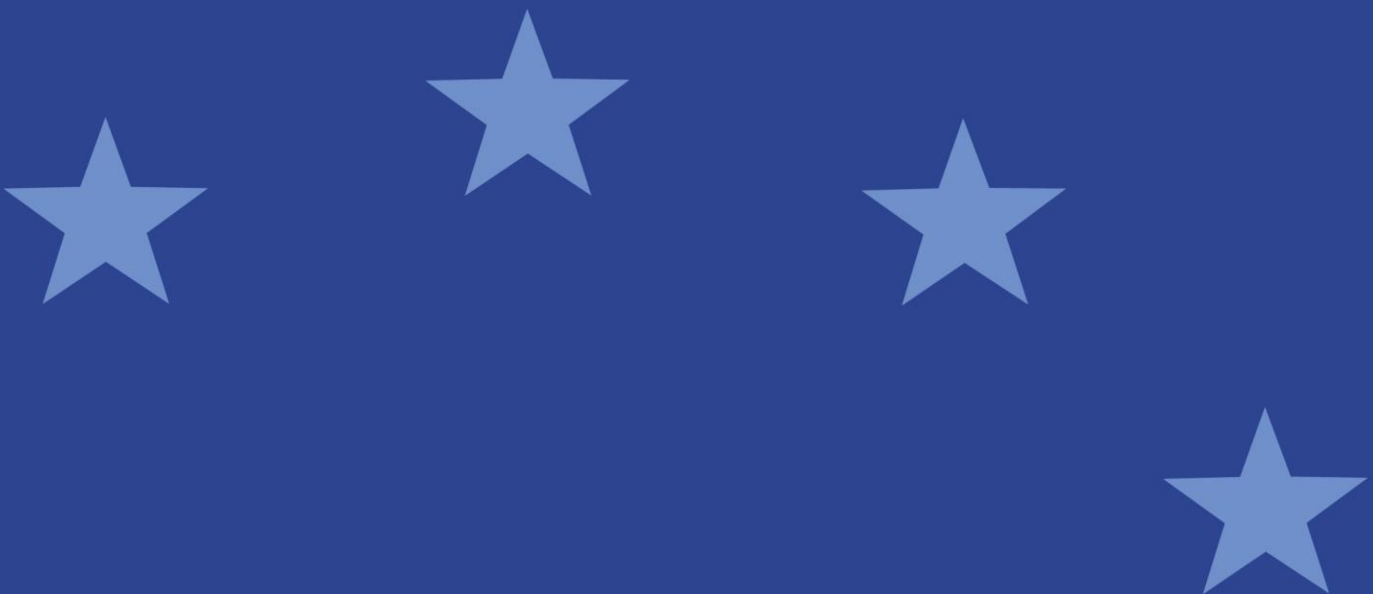
European Securities and Markets Authority

Consultation Paper

Draft technical advice, implementing technical standards and guidelines under the MMF Regulation



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Responding to this paper

ESMA invites comments on all matters in this paper and in particular on the specific questions in Annex I. Comments are most helpful if they:

- respond to the question stated;
- indicate the specific question to which the comment relates;
- contain a clear rationale; and
- describe any alternatives ESMA should consider.

ESMA will consider all comments received by **7 August 2017.**

Responses to this consultation paper can be sent using the response form, via the ESMA website, under the heading 'Your input/Consultations'.

Publication of responses

All contributions received will be published following the close of the consultation, unless you request otherwise. Please clearly and prominently indicate in your submission any part you do not wish to be publically disclosed. A standard confidentiality statement in an email message will not be treated as a request for non-disclosure. A confidential response may be requested from us in accordance with ESMA's rules on access to documents. We may consult you if we receive such a request. Any decision we make not to disclose the response is reviewable by ESMA's Board of Appeal and the European Ombudsman.

Data protection

Information on data protection can be found at www.esma.europa.eu under the heading Legal Notice.

Who should read this paper

This document will be of interest to (i) MMF managers and their trade associations, (ii) alternative investment funds and UCITS managers and their trade associations, as well as (iii) institutional and retail investors (and associations of such investors) investing into MMF.

Table of Contents

1 Executive Summary ... 5

2 Background ... 7

3 Technical advice under Article 15 of the MMF Regulation ... 14

3.1 Level 1 provisions and existing legal framework ... 14

3.2 Proposed technical advice ... 23

4 Technical advice under Article 22 of the MMF Regulation ... 31

4.1 Level 1 provisions and existing legal framework ... 31

4.2 Proposed technical advice ... 37

5 Implementing technical standards to establish a reporting template ... 45

5.1 Level 1 provisions and existing legal framework ... 45

5.2 Proposed implementing technical standards ... 47

6 Guidelines on stress test scenarios ... 52

6.1 Level 1 provisions and existing legal framework ... 52

6.2 Proposed guidelines ... 55

7 Annexes ... 68

7.1 Annex I ... 68

7.2 Annex II ... 72

7.3 Annex III ... 76

7.4 Annex IV ... 97

1 Scope ... 151

2 Definitions ... 152

4 Compliance and reporting obligations ... 154

4.1 Status of the guidelines ... 154

5 Guidelines on stress tests scenarios under Article 28 of the MMF Regulation ... 154

5.1 Guidelines on certain general features of the stress test scenarios of MMF ... 154

5.2 Guidelines on the establishment of common reference parameters of the stress test scenarios in relation to hypothetical changes in the level of liquidity of the assets held in the portfolio of the MMF ... 158

5.3 Guidelines on the establishment of common reference parameters of the stress test scenarios in relation to hypothetical changes in the level of credit risk of the assets held in the portfolio of the MMF, including credit events and rating events ... 158

5.4 Guidelines on the establishment of common reference parameters of the stress test scenarios in relation to hypothetical movements of the interest rates and exchange rates 159

5.5 Guidelines on the establishment of common reference parameters of the stress test scenarios in relation to hypothetical levels of redemption........159

5.6 Guidelines on the establishment of common reference parameters of the stress test scenarios in relation to hypothetical widening or narrowing of spreads among indexes to which interest rates of portfolio securities are tied........161

5.7 Guidelines on the establishment of common reference parameters of the stress test scenarios in relation to hypothetical macro systemic shocks affecting the economy as a whole........162

1 Executive Summary

Reasons for publication

Article 15(7) of Regulation (EU) 2017/XX on money market funds ("MMF Regulation") empowers the Commission to adopt delegated acts specifying liquidity and credit quality requirements applicable to assets received as part of a reverse repurchase agreement. In a letter dated 20 January 2017 (see Annex II to this paper), ESMA was asked to provide technical advice to the European Commission.

Article 22 of the MMF Regulation empowers the Commission to adopt a delegated act specifying: i) the criteria for the validation of the credit quality assessment methodologies referred to in Article 17 of the MMF Regulation; ii) the meaning of the "material change" that could have an impact on the existing assessment of the instrument and that would trigger a new credit quality assessment for a money market instrument; iii) the criteria for quantification of the credit risk and the relative risk of default of an issuer and of the instrument in which the MMF invests; as well as iv) the criteria to establish qualitative indicators on the issuer of the instrument. In its aforementioned letter of 20 January 2017, the Commission asked ESMA to provide technical advice on these topics.

Article 37 of the MMF Regulation (see Annex II to this paper for the full text of these Articles) provides that ESMA shall develop draft implementing technical standards to establish a reporting template containing all the information managers of MMFs are required to send to the competent authority of the MMF.

Article 28 of the MMF Regulation provides that ESMA shall develop guidelines with a view to establishing common reference parameters of the stress test scenarios to be included in the stress tests managers of MMFs are required to conduct.

This CP represents the first stage in the development of the technical advice, implementing technical standards and guidelines described above and sets out proposals for each on which ESMA is seeking the views of external stakeholders.

Contents

Section 2 explains the background to our proposals. Sections 3 to 9 give detailed explanations on the content of the proposals and seek stakeholders' input through specific questions.

Annex I sets out the list of questions contained in this paper.

Annex II contains the legislative mandate to develop implementing technical standards and the letter from the European Commission dated 20 January 2017 asking ESMA to provide technical advice.

Annex III sets out the cost-benefit analysis related to the draft technical advice, implementing technical standards and guidelines.

Annex IV contains the full text of the draft technical advice, implementing technical standards and guidelines.

Next Steps

Responses to this consultation will help ESMA in finalising the draft technical advice and implementing technical standards (for submission the European Commission), as well as the guidelines (for publication).

2 Background

1. The proposal for a Regulation on Money Market Funds (MMFs) was published by the European Commission in September 2013. In June 2016, the Council succeeded in finding an agreement on this text under the Netherlands Presidency.

2. On 7 December 2016, the Council confirmed its agreement on the final text of the Regulation negotiated with the European Parliament and the Commission. The publication of the Regulation in the Official Journal is expected in the second quarter of 2017[1].

3. In the most recent version of the text[2], there are a number of deliverables explicitly allocated to ESMA, as well as well as empowerments for delegated acts on which ESMA has been asked to provide technical advice to the European Commission[3]. It is worth underlining that several aspects touch on various areas of expertise within ESMA (the rules on the assessment of credit quality, or the central database) and that there are also material implications for the IT work programmes of both ESMA and the National Competent Authorities (NCAs).

4. The aforementioned letter from the Commission to ESMA indicates that the deadline for ESMA to transmit its advice to the Commission is 31 July. With respect to the implementing technical standards to be developed by ESMA, the MMF Regulation indicates that the Commission shall adopt the delegated act no later than 6 months after the entry into force of the Regulation[4]. The other deliverables for ESMA, namely guidelines on stress testing and the requirements to establish a database and a central register would normally need to be issued/finalized at the latest when the Regulation applies, namely one year after its entry into force.

5. This section summarises those various deliverables (sub-sections A and B below) in view of introducing the proposals of ESMA on these draft technical advice, implementing technical standards and guidelines presented in the following sections of this consultation paper.

A. Deliverables for ESMA

I. Establishing a central public register (Article 4(7)[5])

6. NCAs will be required, on a quarterly basis, to inform ESMA of authorisations granted or withdrawn pursuant to the MMF Regulation. ESMA will make use of this information to

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[1] The European Parliament has formally agreed the Regulation in plenary session on 5 April 2017.

[2] Draft consolidated text adopted by the European Parliament: http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2017-0109+0+DOC+XML+V0//EN&language=EN#BKMD-12

[3] Please see the corresponding letter to ESMA from the European Commission dated 20 January 2017

[4] The Regulation enters into force 20 days after its publication; assuming publication in the Official Journal in May/June, this would lead to a deadline around December.

[5] Please note that all references refer to the version of the draft Regulation adopted by the European Parliament dated 5 April 2017.

establish a central public register identifying each MMF authorised under the Regulation, whether it is a short term or standard MMF, its type, its manager and the competent authority of the MMF. The register has to be made available in electronic format.

7. Given the constraints on the ESMA IT work programme 2017-2019 no work can be started on the IT aspects of the MMF Regulation before 2018. In this context, regard should also be had to the additional IT implications of the requirements in Article 37 of the Regulation (please see sub-section IV).

II. Issuing guidelines with a view to establishing common reference parameters of the stress test scenarios (Article 28(7))

8. The MMF Regulation obliges each MMF to have in place sound stress testing processes that allow the identification of possible events or future changes in economic conditions which could have unfavourable effects on the MMF. The MMF or its manager has to assess the possible impact that those events or changes could have on the MMF. The manager of a MMF must regularly conduct stress testing for different possible scenarios, and those stress tests must be based on objective criteria and consider the effects of severe plausible scenarios.

9. ESMA is obliged to issue guidelines with a view to establishing common reference parameters of these stress test scenarios taking into account the following factors**:**

    a. hypothetical changes in the level of liquidity of the assets held in the portfolio of the MMF;

    b. hypothetical changes in the level of credit risk of the assets held in the portfolio of the MMF, including credit events and rating events;

    c. hypothetical movements of the interest rates and exchange rates;

    d. hypothetical levels of redemption;

    e. hypothetical widening or narrowing of spreads among indexes to which interest rates of portfolio securities are tied;

    f. hypothetical macro systemic shocks affecting the economy as a whole.

10. Although the Regulation does not prescribe a deadline for the issuance of the guidelines, the text does specify that they need to be updated at least every year taking into account the latest market developments.

11. Please also refer to section 6 of this consultation paper where ESMA's proposals of guidelines are presented.

III. Developing draft ITS to establish a reporting template that shall contain all the information included in the report the manager of the MMF shall send to the competent authority of the MMF (Article 37 (4))

12. For each MMF managed, the manager of the MMF has to report information to the competent authority of the MMF, at least on a quarterly basis. The frequency of reporting is annual in the case of a MMF whose assets under management in total do not exceed EUR 100 million.

13. These reports need to include a number of elements listed in the Regulation, and ESMA is required to develop draft ITS to establish a reporting template that contains the relevant information. ESMA has to submit those draft ITS to the Commission by 6 months after the entry into force of the Regulation.

14. Please also refer to section 5 of this consultation paper where ESMA's proposals of ITS are presented.

IV. Using the information included in the abovementioned report to competent authorities to create a central database of all MMFs established, managed or marketed in the Union (Article 37 (5))

15. Competent authorities are obliged to transmit to ESMA all information included in the report mentioned in the previous sub-section. The reports must reach ESMA no later than 30 days after the end of the reporting quarter.

16. The Regulation requires ESMA to collect this information in order to create a central database of all MMFs established, managed or marketed in the Union. The European Central Bank will have the right to access this database for statistical purposes only.

17. The reference to the IT work programme set out above is equally relevant to this deliverable.

V. Prepare a report in view of the review of the Regulation (Article 43(4))

18. By five years after the entry into force of the Regulation, the Commission must review the adequacy of the Regulation from a prudential and economic point of view, following consultations notably with ESMA.

19. Based on the abovementioned information transmitted by national competent authorities (paragraphs 15 and 16), ESMA is obliged to prepare a report to the Commission "*in light of this review*".

VI. Notifications to ESMA of rules on penalties and other measures applicable to breaches of the provisions of the MMF Regulation (Article 40(2))

20. The Regulation obliges Member States to lay down the rules on penalties and other measures applicable to breaches of the provisions of the MMF Regulation and to take all measures necessary to ensure that they are implemented.

21. By six months after entry into force of the Regulation, the Member States shall notify the Commission and ESMA of these rules. They shall notify the Commission and ESMA without delay of any subsequent amendment thereto.

B. Delegated Acts

I. Specifying quantitative and qualitative liquidity requirements applicable to assets received as part of a reverse repurchase agreement (Article 15(7))

22. According to the Regulation, a reverse repurchase agreement will be eligible to be entered into by a MMF provided that the following conditions are fulfilled: a) the MMF has the right to terminate the agreement at any time upon giving prior notice of no more than two working days; b) the market value of the assets received as part of the reverse repurchase agreement is at all times at least equal to the value of the cash paid out.

23. The Regulation stipulates that the assets received by the MMF as part of a reverse repurchase agreement must be money market instruments eligible for investment by a MMF. By way of derogation from this requirement, a MMF may receive as part of a reverse repurchase agreement liquid transferable securities or money market instruments other than money market instruments eligible for investment by a MMF provided that those assets comply with one of the following conditions:

a. They are issued or guaranteed by the Union, a central authority or central bank of a Member State, the European Central Bank, the European Investment Bank, the European Stability Mechanism or the European Financial Stability Facility provided that a favourable assessment has been received pursuant to Articles 19 to 22;

b. they are issued or guaranteed by a central authority or central bank of a third country, provided that a favourable assessment has been received pursuant to Articles 19 to 22.

24. The Commission is empowered to adopt delegated acts specifying liquidity requirements (both quantitative and qualitative) applicable to assets referred to in paragraph 23 and specifying credit quality requirements (both quantitative and qualitative) applicable to assets referred to in paragraph 23(a). For this purpose the Commission must take into account the report on appropriate uniform definitions of high and of extremely high liquidity and credit quality of transferable assets as referred to in the Capital Requirements Regulation (CRR).

25. The Commission is required to adopt this delegated act no later than 6 months after entry into force of the Regulation. In the aforementioned letter to ESMA dated 20 January 2017 the Commission indicates that "*ESMA is expected to advise the Commission on*

criteria and characteristics of assets referred to in article 13(5) that ensure that the liquidity profile of the MMF is not endangered in case it is forced to liquidate those assets following the counterparty's default".

26. Please also refer to section 3 of this consultation paper where ESMA's proposals of technical advice under Article 15 are presented.

II. Delegated Acts for the credit quality assessment (Article 22)

i. Specifying the criteria for the validation of the credit quality assessment methodology that the manager of a MMF shall establish to determine the credit quality of money market instruments (Article 22(a))

27. The manager of a MMF must establish, implement and consistently apply a prudent internal credit quality assessment procedure for determining the credit quality of money market instruments, securitisations and asset-backed commercial paper (ABCP) taking into account the issuer of the instrument and the characteristics of the instrument itself.

28. The internal assessment procedure has to be based on prudent, systematic and continuous assessment methodologies. The methodologies used must be subject to validation by the manager of the MMF based on historical experience and empirical evidence, including back testing.

29. The Commission is obliged to adopt a delegated act specifying the criteria for the validation of these credit quality assessment methodologies.

ii. Specifying the meaning of the "material change" that could have an impact on the existing assessment of the instrument and that would trigger a new credit quality assessment for a money market instrument (Article 22(d))

30. The manager of a MMF must ensure that the internal credit quality assessment procedure mentioned in the previous sub-section complies with different general principles, including the fact that "while there shall be no mechanistic overreliance on external ratings" a manager of a MMF has to undertake a new credit quality assessment for a money market instrument, securitisations and ABCPs when there is a "material change" that could have an impact on the existing assessment of the instrument.

31. The Commission is mandated to adopt a delegated act specifying the meaning of that "material change".

iii. Specifying the criteria for quantification of the credit risk and the relative risk of default of an issuer and of the instrument in which the MMF invests (Article 22(b)) and the criteria to establish qualitative indicators on the issuer of the instrument (Article 22(c))

32. A manager of a MMF shall assess whether the credit quality of a money market instrument, securitisation or ABCP receives a favourable assessment in accordance with the procedure mentioned above.The corresponding internal credit quality assessment has to take into account the quantification of the credit risk of the issuer and the relative risk of default of the issuer and of the instrument.

33. The Commission must adopt a delegated act specifying the criteria for such a quantification of the credit risk and such a relative risk of default of the issuer and of the instrument.

34. The corresponding internal credit quality assessment shall also take into account qualitative indicators on the issuer of the instrument, including in the light of the macro-economic and financial market situation.

35. The Commission is required to adopt a further delegated act specifying the criteria to establish such qualitative indicators on the issuer of the instrument.

36. With respect to the various aforementioned delegated acts for the credit quality assessment, the aforementioned letter from the Commission dated 20 January 2017 indicates that "*ESMA is expected to bear in mind that the default of a security held by a MMF can have negative consequences, not just for the MMF itself but also for wider financial markets*".

37. Please also refer to section 4 of this consultation paper where ESMA's proposals of technical advice under Article 22 are presented.

III. Specifying the criteria for identifying simple, transparent and standardised eligible securitisation (Article 11(4))

38. A securitisation or ABCP can be considered as eligible for investment by a MMF provided that the securitisation or ABCP is sufficiently liquid and of high quality pursuant to the MMF's internal credit assessment, and is notably identified as a simple, transparent and standardised securitisation or ABCP.

39. The Commission must adopt by 6 months from the date of entry into force of the future Simple, transparent and standardised securitisations (STS) regulation a delegated act amending this Article 11 by introducing a cross-reference to the criteria identifying simple, transparent and standardised securitisations and ABCPs in the corresponding provisions of that STS Regulation. The amendment is required to become effective at the latest from 6 months after the entry into force of that delegated act or from the date of application of the corresponding provisions in the STS Regulation, whichever is the later.

40. The aforementioned letter from the Commission dated 20 January 2017 did not ask for ESMA's advice on this topic.

C. ESMA's work plan

41. Given the different requirements related to technical standards, technical advice, guidelines, the register and database mentioned above, and if the Regulation were to be published in May/June 2017 as it is expected, the following timeline is anticipated:

42. a. By November 2017 the ITS on the reporting template under Article 37(4) of the Regulation would need to be transmitted to the Commission. These ITS relate to the contents (expressed in word format) of the information that would be included in the reporting template that would be used by managers of MMFs, while the technical format of the template would be specified later (please see below);

b. By the end of 2017 the guidelines on stress testing under Article 28 should be published[6];

c. By October/November 2019, managers should be able to send the quarterly reports mentioned in Article 37 to NCAs and ESMA's IT system should be able to receive the quarterly reports from NCAs. In addition, the central public register mentioned in Art 4(7) of the Regulation should be established;

d. With respect to technical advice, the Commission indicates in its letter dated 20 January 2017 that the technical advice under Articles 15 and 22 of the MMF Regulation should be transmitted to the Commission by 31 July.

43. On 3 February 2017 ESMA sent a letter to the Commission confirming the abovementioned work plan.

44. It should also be noted that, once the work on technical advice, guidelines and technical standards related to the MMF Regulation is finished, there will be a need to amend or withdraw completely the existing CESR guidelines on a common definition of European money market funds due to the overlap between the guidelines and the Regulation.

45. ESMA is consulting stakeholders on the proposals set out below shortly after the publication of the MMF Regulation in the *Official Journal*. Since the MMF Regulation and the letter sent from the Commission on 20 January 2017 mandate ESMA to develop this work within a challenging deadline, ESMA has had shorten slightly its standard consultation period of three months.

[6] While the Regulation does not set a deadline for issuance of the guidelines, ideally they would be in place reasonably far in advance of the date of application of the Regulation.

3 Technical advice under Article 15 of the MMF Regulation

3.1 Level 1 provisions and existing legal framework

46. According to Article 15 of the MMF Regulation, a reverse repurchase agreement will be eligible to be entered into by a MMF provided that the following conditions are fulfilled: a) the MMF has the right to terminate the agreement at any time upon giving prior notice of no more than two working days; b) the market value of the assets received as part of the reverse repurchase agreement is at all times at least equal to the value of the cash paid out.

47. Article 15(2) of the Regulation stipulates that the assets received by the MMF as part of a reverse repurchase agreement must be money market instruments eligible for investment by a MMF (excepted securitisation and ABCP). Article 15(6) specifies that by way of derogation from this requirement, a MMF may receive as part of a reverse repurchase agreement liquid transferable securities or money market instruments other than money market instruments eligible for investment by a MMF provided that those assets comply with one of the following conditions:

    a. They are issued or guaranteed by the Union, a central authority or central bank of a Member State, the European Central Bank, the European Investment Bank, the European Stability Mechanism or the European Financial Stability Facility provided that a favourable assessment has been received pursuant to Articles 19 to 22;

    b. they are issued or guaranteed by a central authority or central bank of a third country, provided that a favourable assessment has been received pursuant to Articles 19 to 22.

48. Under the requirements of Article 15(7), the Commission is empowered to adopt delegated acts specifying liquidity requirements (both quantitative and qualitative) applicable to assets referred to in paragraph 47 and specifying credit quality requirements (both quantitative and qualitative) applicable to assets referred to in paragraph 47(a). For this purpose the Commission must take into account the report on appropriate uniform definitions of high and of extremely high liquidity and credit quality of transferable assets as referred to in the Capital Requirements Regulation (CRR) (EBA report referred to in Article 509(3) of the CRR).

49. The Commission is required to adopt this delegated act no later than 6 months after entry into force of the Regulation. In its letter to ESMA dated 20 January 2017 the Commission indicates that "*ESMA is expected to advise the Commission on criteria and characteristics of assets referred to in article 13(5) that ensure that the liquidity profile of the MMF is not endangered in case it is forced to liquidate those assets following the counterparty's default*".

Existing EU and US requirements on liquidy and credit quality requirements

CRR, the EBA report referred to in Article 509(3) of the CRR and the Delegated Regulation 2015/61

50. The report referred to in Article 509(3) of the CRR and Article 15(7) of the MMF Regulation is the EBA report on '*appropriate uniform definitions of extremely high quality liquid assets (extremely HQLA) and high quality liquid assets (HQLA) and on operational requirements for liquid assets under Article 509(3) and (5) CRR*' (2013-413)[7] published in December 2013.

51. This report was published in the context of the work of the Basel Committee on Banking Supervision (BCBS) and the introduction of a Liquidity Coverage Ratio (LCR) and Net Stable Funding Ratio (NSFR), to be put in place in 2015 and 2018 respectively (liquidity requirements being part of the new Basel III regulatory framework).

52. The LCR promotes the short-term resilience of a bank's liquidity risk profile by ensuring that it has sufficient high-quality liquid assets (HQLA) to survive a significant stress scenario lasting for one month. It sets the minimum liquidity buffer to bridge liquidity mismatches for one month in a crisis scenario. The NSFR has a time horizon of one year and aims to provide a sustainable maturity structure of assets and liabilities.

53. More specifically, in accordance with Article 509(3) of the CRR, the EBA had to report to the Commission on appropriate uniform definitions of high and extremely high liquidity and credit quality of assets, and on appropriate haircuts for assets of high liquidity and credit quality.

54. In view of determining whether the conclusions of this report are relevant in the context of the technical advice under Article 15 of the MMF Regulation, it is interesting to look in more detail at the work presented in this EBA report.

55. The methodology that was used in this report is the following. As a first step, the EBA assessed a range of asset classes against the fundamental definitions of liquid assets set out in Article 416(3) of the CRR. Then it performed a detailed quantitative assessment of the liquidity of individual assets. The estimates of various liquidity metrics from the quantitative data have been used to produce an ordinal ranking of the relative liquidity of different asset classes. The relationship between the characteristics of specific assets and these liquidity metrics has also been assessed to identify the characteristics that are of particular importance to market liquidity. This evidence has finally been used to construct specific definitions of the characteristics of assets that qualify them for consideration as potentially of high or extremely high liquidity.

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[7] https://www.eba.europa.eu/documents/10180/16145/EBA+BS+2013+413+Report+on+definition+of+HQLA.pdf

56. It is to be noted that for the purpose of this report, i) the empirical analysis is limited to assets denominated in EU currencies; ii) for some asset classes, conclusions on their eligibility for the liquidity buffer were determined via a principles-based assessment, generally because of an absence of evidence on market liquidity.

57. In the context of this analysis, assets are considered as fundamentally liquid if they are easily and immediately convertible into cash with little or no loss of value. Such a definition follows the spirit of the LCR, which is intended to oblige institutions to hold liquid assets precisely so that they can turn these into cash if they experience liquidity stress. Whereas such a theoretical definition is relatively easily to formulate, there is no single way to measure such a definition of liquidity for an asset empirically. Hence, the EBA report is based on a number of different liquidity related measures, each showing different aspects of the liquidity characteristics of an asset.

58. The set of measures consists of price impact measures, bid/ask spread measures, trading volume measures, zero-trading days and price volatility measures. Each measure, or group of measures, are aimed to provide an insight into the different aspects of liquidity which, when combined, give a broad picture of the market liquidity of each asset. For some asset categories, the measures may be supplemented with additional qualitative judgement.

59. As a second step of the analysis, a cross asset class comparison was made by computing the previously noted liquidity measures and aggregating to a monthly frequency. Time series for each asset class were computed by taking averages across assets within the respective asset class. In addition, probability distributions were produced for each asset class, based on the liquidity measures computed for each asset in the relevant asset class. These probability distributions reflect variations in liquidity measures both across assets within that asset class and over time. Based on the time-series and probability distribution evidence a provisional ranking of asset classes by liquidity levels could be produced.

60. The next step of the analysis of the report involved looking further at the characteristics that determine liquidity and credit quality within asset classes. In this step, EBA looked at the liquidity measures at the individual asset level, and not aggregated to asset class level. The EBA has identified the theoretically relevant explanatory characteristics of the liquidity and credit quality of different asset class subgroups, and tested whether these do help predict the liquidity of asset subgroups.

61. The EBA used regression analysis to identify the explanatory ability of the different asset subgroup characteristics on the different liquidity metrics defined. Based on this regression evidence, each asset class was divided into subgroups, based on the characteristics of the individual observations. These buckets of assets were then used in the final step of the analysis, where an ordinal ranking is produced.

62. Based on the quantitative analysis, this final step of the analysis was to create actual liquid asset subgroups based on relevant asset characteristics. These could e.g. include

time to maturity for bonds. For each asset an average value of each liquidity metric over time was then computed.

63. Once these average values of liquidity metrics and buckets were created and assigned, the EBA looked at how well groups of assets within different buckets perform on the liquidity measures. In setting the distinction between assets of extremely high liquidity and credit quality, and assets of high liquidity and credit quality, the EBA used government bonds as a benchmark. Hence the EBA picked a homogeneous group of government bonds which, based on their liquidity metric values, can be viewed as assets of extremely high and high liquidity and credit quality. These government bond buckets were then compared to all the different asset buckets previously created, on the basis of asset class and explanatory characteristics, and identify buckets which have liquidity metric distributions equal or close to those of the government bond benchmark. The ordinal ranking was compiled on this basis and aggregated into a basket of assets defining assets of extremely high liquidity and credit quality and a basket of high liquidity and credit quality. Any asset buckets that have liquidity metric values below the lower bound of assets with high liquidity and credit quality were excluded.

64. This step also involved some use of qualitative judgment. While the quantitative analysis performed indicated something about observed market transactions, it did not necessarily indicate whether a given asset would be easy to liquidate in the market. A high quality government bond may be held on the book of a pension fund for several years, thus not showing any turnover. This bond would by most of the quantitative metrics described above be considered illiquid, however in reality it would be very easy for the pension fund to liquidate this position if it so wished. While the main element of this step was the empirical analysis, some qualitative judgment was therefore also taken into account when making the final liquidity grouping and ordinal ranking of assets.

65. Using this methodology, the liquidity of the following asset classes was assessed empirically: i) government bonds; ii) government guaranteed bonds; iii) bonds issued by local government; iv) bonds issued by multinationals; v) corporate bonds; vi) covered bonds; vii) bonds issued by promotional banks; vii) bank guaranteed bonds; ix) residential mortgage-backed securities (RMBS); x) asset-backed securities (ABS); xi) equities listed on a recognised exchange; and xii) gold.

66. The empirical approach of the EBA report led to the following conclusions:

Definitions of assets of extremely high liquidity and credit quality
EEA sovereign bonds issued in domestic currency, rated External Credit Assessment Institutions (ECAI) 1[8], with a minimum issue size of EUR 250 million (or the local currency equivalent).

[8] 'ECA 1' is to be understood in the context of the mapping of ECAI under CRR. For example: https://www.eba.europa.eu/documents/10180/1359456/ESAs+2016+41+%28Joint+Opinion+on+EC+amend+ITS+ECAIs+Mapping+CRR%29.pdf

EEA covered bonds rated ECAI 1 with a minimum issue size of EUR 500 million (or the local currency equivalent) and subject to additional conditions relating to the regulations governing the covered bond structure (as set out below).

Note that this analysis has not sought to assess the liquidity of central bank reserves and holdings of notes and coins, which are assumed liquid assets by definition.

Definitions of assets of high liquidity and credit quality

Sovereign bonds issued in domestic currency rated ECAI 2 or above, of minimum issue size EUR 100 million (or the local currency equivalent).

Covered bonds rated ECAI 1 of minimum issue size EUR 250 million (or the local currency equivalent).

Corporate bonds rated ECAI 4 or better, of minimum issue size EUR 250 million (or the local currency equivalent) and a maximum time to maturity of 10 years.

RMBS rated ECAI 1 of minimum issue size EUR 100 million (or the local currency equivalent) and a maximum time to maturity of 5 years subject to the additional regulatory requirements listed below.

Bonds issued by supranational institutions in EEA currencies, rated ECAI 1, of minimum issue size EUR 250 million (or the local currency equivalent).

Bonds issued by local government institutions in EEA currencies, rated ECAI 2 or above, of minimum issue size EUR 250 million (or the local currency equivalent) and a maximum time to maturity of 10 years.

67. There were additional regulatory requirements for covered bonds and RMBS.

68. Based on the empirical and principles-based analysis in this EBA report, there was insufficient evidence of market liquidity to propose the following asset classes as assets of high liquidity and credit quality: i) equities; ii) gold; iii) ABS not backed by residential mortgages; iv) credit claims; v) securities issued by financial institutions; vi) central bank securities; vii) bank-issued government guaranteed bonds; and viii) bonds issued by promotional banks.

69. Following this report, the Commission published the corresponding Delegated Regulation 2015/61 to supplement Regulation (EU) No 575/2013 of the European Parliament and the Council with regard to liquidity coverage requirement for Credit Institutions[9]. Taking into account the outcome of the abovementioned EBA report, This Delegated Regulation specify in detail the liquidity coverage requirements of the Regulation 575/2013 and in particular define the 'level 1 assets' (that is, assets of extremely high liquidity and credit quality as referred to in the second subparagraph of Article 416(1) of

[9] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R0061&from=EN

Regulation (EU) No 575/2013) and 'level 2 assets' (that is, assets of high liquidity and credit quality as referred to in the second subparagraph of Article 416(1) of Regulation (EU) No 575/2013).

MiFIR and the definition of liquid markets

70. According to MiFIR (Article 2(1)(17)), a liquid market for a financial instrument or a class of financial instruments is a market where there are ready and willing buyers and sellers on a continuous basis. The definition provides a number of specific criteria aimed at determining whether a financial instrument or a class of financial instruments is liquid. Those criteria include trade-based, order-based and market-structure based measures of liquidity.

71. The concept of a 'liquid market' as defined in MiFIR plays a central role in the transparency regime for non-equity financial instruments. MiFIR requires a number of key implementing measures to be adopted which hinge on the concept of 'liquid market'.

72. ESMA indicated in its discussion paper on this topic (2014-548)[10] that ESMA is aware that the general concept of liquidity of financial instruments also plays a role in other pieces of European legislation, notably in the Capital Requirements Regulation. ESMA emphasised that the concept of a liquid market as described in MiFIR and further specified by ESMA technical standards (2015/1464)[11] is relevant for transparency purposes in MiFIR only. Liquidity tests and assessments in other pieces of European legislation serve different regulatory purposes and are therefore independent of the liquidity assessments for MiFIR.

73. MiFIR introduced transparency requirements for bonds, structured finance products, emission allowances and derivatives depending on whether or not there is a liquid market in those instruments.

EMIR and the specification of the type of collateral that can be used when posting margins bilaterally for non-centrally cleared derivatives

74. The delegation regulation supplementing Regulation (EU) No 648/2012 of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories (EMIR), with regard to regulatory technical standards for risk-mitigation techniques for OTC derivative contracts not cleared by a central counterparty[12], introduces in its Articles 4 to 7 specifications of the type of collateral that can be used when posting margins bilaterally for non-centrally cleared derivatives.

75. The objective of these provisions is to ensure that the characteristics of the collateral are sufficiently liquid and of sufficiently high credit quality, which is again similar to the requirements of Article 15(7) of the MMF Regulation. More specifically, the objective is to

[10] https://www.esma.europa.eu/sites/default/files/library/2015/11/2014-548_discussion_paper_mifid-mifir.pdf

[11] https://www.esma.europa.eu/sites/default/files/library/2015/11/2015-esma-1464_annex_i_-_draft_rts_and_its_on_mifid_ii_and_mifir.pdf

[12] http://ec.europa.eu/finance/financial-markets/docs/derivatives/160728-delegated-regulation_en.pdf

ensure that any collateral collected "*must be of sufficient high liquidity and credit quality to allow the collecting counterparty to liquidate the positions without suffering a loss due to significant changes in value in case the other counterparty defaults*" (*Recital 25 of the EMIR RTS).

76. Paragraphs 64 to 78 of the cost-benefit analysis attached to the draft RTS[13] (some amendments were made to the RTS upon adoption but the approach in this area remains fundamentally the same) provide some further detail on the policy choices that were considered under the RTS, which appear even more similar to the ones faced in the context of Article 15(7) of the MMF Regulation.

77. Several policy options were indeed considered, including the explicit reference to the work already done in the aforementioned context of the CRR and the definition of high quality liquid assets, but this approach was not chosen as the preferred option in the specific context of EMIR.

78. It is to be noted that one key difference between the approaches taken under the CRR and EMIR is that the latter specifically accounts for securities issued by third country central authorities or central banks.

79. Another key point is that the EMIR RTS allows for a proportionate approach, allowing CCPs to use ratings assigned by an ECAI, their own internal ratings based approach (IRB) or the IRB of an appropriately supervised counterparty to determine eligibility and levels of collateralisation. While there could be concerns that this approach also relies on ratings, it could also be argued that ECAI mappings themselves involve a qualitative judgement, that this is only for those counterparties that lack the expertise for/supervisory approval of an IRB and in any event the approach in the RTS is that grace periods should apply where an instrument is downgraded.

<u>US SEC requirements on the counterparty to the reverse repurchase agreement and the collateral in the case of MMFs</u>

80. In the US, money market funds are subject to certain issuer diversification requirements[14]. A money market fund may look through a reverse repurchase agreement and such transaction is seen as the acquisition of the underlying collateral where it is "collateralized fully" in accordance with applicable regulation[15] (which includes obligations on i) how the value for the collateral shall be ascertained, ii) whether the fund has perfected its security interest, iii) where the collateral shall be held on custody, and iv) the type of collateral that would be eligible for the money market fund so that this fund can treat the reverse repurchase transaction as an acquisition of the collateral for purposes of the issuer

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[13] https://www.eba.europa.eu/documents/10180/1398349/RTS+on+Risk+Mitigation+Techniques+for+OTC+contracts+%28JC-2016-+18%29.pdf/fb0b3387-3366-4c56-9e25-74b2a4997e1d

[14] As per Rule 2a-7(d)(3), including sub-section (A).

[15] Rule 2a-7(a)(5), which defines "collateralized fully" and Rule 5b-3(c)(1) except 5b-3(c)(1)(iv)(C)

diversification requirement). In order to take advantage of this special look-through treatment, the MMF's board of directors or its delegate must evaluate the creditworthiness of the counterparty to the reverse repurchase agreement, which effectively requires the fund's adviser to determine that the counterparty is a creditworthy institution, separate and apart from the value of the collateral supporting the counterparty's obligation under the repurchase agreement[16]. In addition, the adviser shall provide an ongoing review of whether the investment presents minimal credit risks[17].

US SEC requirements on the classification of the liquidity of fund portfolio investments (applicable to mutual funds and exchange traded funds)

81. In the US, under the requirements of the Investment Company Liquidity Risk Management Programs[18] recently issued by the SEC, each fund (mutual funds and exchange traded funds – not the MMFs) is required to classify each of the investments in its portfolio on at least a monthly basis. The classification is based on the number of days in which the fund reasonably expects the investment would be convertible to cash (or sold or disposed of) in current market conditions without significantly changing the market value of the investment, and the determination has to take into account the market depth of the investment. Funds are required to classify each investment into one of four liquidity categories: highly liquid investments, moderately liquid investments, less liquid investments, and illiquid investments. Additionally, funds are permitted to classify investments by asset class, unless market, trading, or investment-specific considerations with respect to a particular investment are expected to affect significantly the liquidity characteristics of that investment as compared to the other portfolio holdings of the fund within that asset class.

82. More specifically, the new rules require a fund to classify each of its portfolio investments, including its derivatives transactions into one of four liquidity categories:

a. *Highly liquid investments*, defined as cash and any investment reasonably expected to be convertible to cash in current market conditions in three business days or less without the conversion to cash significantly changing the market value of the investment;

b. *Moderately liquid investments*, defined as any investment reasonably expected to be convertible to cash in current market conditions in more than three calendar days but in seven calendar days or less without the conversion to cash significantly changing the market value of the investment;

c. *Less liquid investments*, defined as any investment reasonably expected to be sold or disposed of in current market conditions in seven calendar days or less without

[16] Rule 2a-7(d)(3)

[17] Rule 2a-7(g)(3)

[18] https://www.sec.gov/divisions/investment/guidance/secg-liquidity.htm and https://www.sec.gov/rules/final/2016/33-10233.pdf

the sale or disposition significantly changing the market value of the investment, but where the sale or disposition is reasonably expected to settle in more than seven calendar days;

d. *Illiquid investments*, defined as any investment that may not reasonably be expected to be sold or disposed of in current market conditions in seven calendar days or less without the sale or disposition significantly changing the market value of the investment.[19]

83. Though it does not apply to MMFs in the US context, this type of approach, which relies on the classification of the liquidity of assets made by the manager (as opposed to prescribed by regulation), is different from the more prescriptive ones under the CRR or EMIR frameworks and might also be interesting in the context of the liquidity requirements to be specified under the requirements of Article 15 of the MMF Regulation.[20]

<u>Liquidity and credit quality requirements that generally apply to assets received as part of a reverse repurchase agreement under the requirements of the MMF Regulation</u>

84. In order to have a clearer view on the extent to which it is needed to issue supplementary liquidity and credit quality requirements with respect to the assets mentioned in Article 15(6)(a) and (b) of the MMF Regulation, it is necessary to clarify and specify the liquidity and credit quality requirements that already generally apply to those assets which have been received as part of a reverse repurchase agreement in accordance with the other articles of the MMF Regulation.

85. In that context, under the requirements of the MMF Regulation, the following requirements apply to the reverse repurchase agreement itself: i) recital 28 of the MMF Regulation indicates, "*In order to limit risk-taking by MMFs, it is essential to reduce counterparty risk by subjecting the portfolio of MMFs to clear diversification requirements. To that end, reverse repurchase agreements should be fully collateralised and, in order to limit the operational risk, a <u>single reverse repurchase agreement counterparty should not account for more than 15% of a MMF's assets</u>*" ii) the reverse repurchase agreement shall be over-collateralised (recital 28 above and Article 15(1)(b) of the MMF Regulation which indicates that "*the market value of the assets received as part of the reverse repurchase agreement is at all times at least equal to the value of the cash paid out*") iii) the MMF has the right to terminate the reverse repurchase agreement upon maximum 2 business days (Article 15(1)(a) of the MMF Regulation indicates that "*the MMF has the right to terminate the agreement at any time upon giving prior notice of no more than two working days*").

86. In addition, the following requirements apply to the assets received as part of the reverse repurchase agreement (eligible collateral): i) this collateral is of "high quality" (recital

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[19] The final rules from page 89 (https://www.sec.gov/rules/final/2016/33-10233.pdf) further detail the rationale behind these choices.

[20] Please also note that the approach taken in the paragraphs 31-33 of the Guidelines on ETFs and other UCITS issues (https://www.esma.europa.eu/sites/default/files/library/2015/11/esma-2014-0011-01-00_en_0.pdf) on liquidity requirements could be seen as not inconsistent with this approach.

27 of the MMF Regulation indicates that "*the collateral provided in the framework of reverse repurchase agreements is of high quality*") ii) the collateral does not display a high correlation with the performance of the counterparty (recital 27 of the MMF Regulation indicates that "(the collateral) *does not display a high correlation with the performance of the counterparty, in order to avoid a negative impact in the event of a default of the counterparty")* iii) the eligible collateral is composed of the assets mentioned in Article 15, and in particular those mentioned in Article 15(6) and 15(7) of the MMF Regulation, which includes the requirement of having received a *"favourable assessment has been received pursuant to Articles 19 to 22"* (a favourable credit quality assessment) iv) the collateral shall be sufficiently diversified with a maximum exposure to a given issuer of 15% of the NAV of the MMF, except in the case of European public debt as referred to in Article 17(6) of the MMF Regulation (Article 17(1) and 17(7) of the MMF Regulation). Therefore, additional qualitative and quantitative credit criteria shall be developed by the Commission (and ESMA in the related technical advice) with regards to European public debt only[21].

Questions:

Q1. Do you agree that the abovementioned references to EU/US standards are relevant in the context of the issuance by ESMA of technical advice on quantitative and qualitative liquidity and credit quality requirements applicable to assets received as part of a reverse repurchase agreement in the context of the MMF Regulation? Do you identify other pieces of national/EU/International law that would be relevant in view of the work on this part of the advice?

3.2 Proposed technical advice

87. Having regard to the abovementioned pieces of EU and international law/regulation on quantitative and qualitative liquidity requirements applicable to assets, the following points are relevant for the next steps of the work related to the requirement of Article 15 of the MMF Regulation.

88. Given the purpose and descriptions of the abovementioned work under the CRR, EMIR and MiFIR frameworks, and given the specific request from the Commission in its letter dated 20 January 2017, one may conclude that the existing work on liquidity and credit quality requirement under the CRR, the abovementioned SEC framework on the classification of the liquidity of assets and the EMIR frameworks are the most relevant ones in the context of Article 15 of the MMF Regulation.

89. There are clear limitations to the use of the abovementioned EBA report (and corresponding requirements included in the abovementioned Delegated Regulation 2015/61) given in particular that i) only assets issued in EU currencies have been assessed

[21] while general criteria apply to non EU public debt.

in that context while Article 15(6)(b) of the MMF Regulation explicitly mentions securities or money market instruments that are 'issued or guaranteed by a central authority or central bank of a third country' and ii) liquidity of the assets under CRR shall be assessed over a month period with regards to the LCR, which is not consistent with the liquidity of MMF. Given the EBA report is the European implementation of the aforementioned Basel III framework one could however think about using the similar non-EU requirements and categorizations of assets on HQLA in a selected pool of non-EU countries[22]. Alternatively, one could directly follow the approach suggested on this issue in the abovementioned Delegated Regulation 2015/61 (in particular Articles 10 and 11).

90. It is also to be noted that the definitions of assets of (extremely) high liquidity and credit quality in the context of this report/Delegation Regulation 2015/61 explicitly refer to ECAI ratings, which could be seen as not fully consistent with the requirements of Articles 19 and 20 of the MMF Regulation. On the other hand, the approach taken under EMIR specifically accounts for securities issued by third country central authorities or central banks;

91. Given the description of the methodology used in the context of the aforementioned EBA report, it is clear that applying a similar type of empirical methodology in the specific context of the technical advice under Article 15 of the MMF Regulation is not feasible in the requested timeline.

92. Regarding the EMIR methodology described above, a way to use this methodology in the specific context of the requirements of the Article 15 of the MMF Regulation could be to consider the following steps:

a. Compare the scope of the products referred to in Article 15(6)(a) and 15(6)(b) of the MMF Regulation with the scope of the products referred to in Article 4(1)(c) to Article 4(1)(l) of the EMIR delegated regulation with regard to regulatory technical standards for risk-mitigation techniques for OTC derivative contracts not cleared by a central counterparty[23];

b. Consider that the requirements set out in Articles 6 and 7 of the EMIR delegated regulation with regard to regulatory technical standards for risk-mitigation techniques for OTC derivative contracts not cleared by a central counterparty (there are different types of requirements depending on the classification of assets as included in Article 4(1)(c) to Article 4(1)(l)) would constitute the credit quality and liquidity requirements as requested under the Article 15(6)(a) and 15(6)(b) of the MMF Regulation.

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[22] Please see for example the case of the US and the work of the Federal Reserve (Fed):
https://www.federalreserve.gov/newsevents/press/bcreg/20160401a.htm

[23] http://ec.europa.eu/finance/financial-markets/docs/derivatives/160728-delegated-regulation_en.pdf

93. Several options could therefore be suggested with respect to the credit quality and liquidity requirements referred to in the Article 15(6)(a) and 15(6)(b) of the MMF Regulation.

With respect to credit quality requirements, the different options that could be suggested include:

Proposed options credit quality requirements

Option a) on credit quality requirements

a. Consider that the MMF Regulation, which no longer refers to "high credit quality" requirements but rather to a "favourable assessment" (in the context of the credit quality assessment described in Articles 19 to 22 of the MMF Regulation) implies that there should not be any further requirements to be specified by ESMA in the specific context of the Article 15 of the MMF Regulation. The criteria that would be taken into account in the credit quality assessment methodology (and that would therefore trigger the abovementioned "favourable assessment") would be specified in the technical advice under Article 22 of the MMF Regulation (please refer to the dedicated section of this consultation paper). This option is supplemented with (and further explained by) option a) below in the case of the liquidity requirements;

Option b) on credit quality requirements

b. Complement the option described in a) above with a list of assets that would in any case be deemed to meet the credit quality requirements under Article 15(6) of the MMF Regulation, which could be the assets referred to as "*extremely high liquidity and credit quality*" and *"high liquidity and credit quality"* under the requirements of the abovementioned EBA report on HQLA/ Delegated Regulation 2015/61;

Option c) on credit quality requirements

c. Consider that the assets that would meet the credit quality requirements under Article 15(7) of the MMF Regulation would be those that would meet the requirements of the Articles 4(1)(c) to Article 4(1)(l) (together with Articles 6 and 7) of the EMIR delegated regulation with regard to regulatory technical standards for risk-mitigation techniques for OTC derivative contracts not cleared by a central counterparty, as described above;

Option d) on credit quality requirements

d. Consider that the only assets that would be deemed to meet the credit quality requirements under Article 15(7) of the MMF Regulation would be the assets referred to as "*extremely high liquidity and credit quality*" and *"high liquidity and credit quality"* under the requirements of the abovementioned EBA report on HQLA / Delegated Regulation 2015/61.

94. With respect to liquidity requirements, the different options that could be suggested are balanced against the existing applicable requirements applying to reverse repurchase agreement, as further detailed above. These could include:

Proposed options on liquidity requirements

Option a) on liquidity requirements

a. This option is based on an approach whereby liquidity requirements applying to the collateral depend on the risk of default of the counterparties to the reverse repurchase agreement and the applicable counterparty risk diversification limit[24]. This approach aims at meeting the ESMA mandate granted by the European Commission, whereby "*ESMA is expected to advise the Commission on criteria and characteristics of assets to ensure that the liquidity profile of the MMF is not endangered in case it is forced to liquidate those assets following the counterparty's default"*[25]*.* A MMF may only be forced to liquidate those assets following the default of the counterparty to the reverse repurchase transaction. As a consequence, should the risk of default of the counterparty be limited, based on applicable regulation, no specific liquidity requirements may apply, since as long as the counterparty to the MMF does not default, the assets received as collateral shall not and will not be liquidated by the MMF. However, when counterparties to the MMF may default, the MMF may be forced to liquidate assets received as collateral. Under such circumstance, the liquidity profile of the MMF may be endangered. To avoid so, additional liquidity requirements shall apply to address that potential risk.

   i. If the counterparty to the reverse repurchase agreement is a European credit institution, or European investment firm, or any credit institution or investment firm subject to prudential regulation deemed equivalent to the European one[26], or regulated central counterparties, or the ECB, or Member States' central banks, or non-EU central banks deemed equivalent under the requirements of the Article 114 of CRR[27], ensuring appropriate matching of assets and liabilities, no specific liquidity requirements with respect to the assets mentioned in Article 15(6) of the MMF Regulation are needed, as under such a situation, the risk of a MMF to be forced to liquidate the collateral is mitigated;

[24] each single counterparty to a MMF may account for maximum 15% of the assets of the MMF.

[25] Commission letter to ESMA dated 20 January 2017.

[26] one could use the wording of the PRIIPs Regulatory technical standards on the same topic (Annex 2, Part 2, Section 2 Credit Assessment, §43(a) p.43), which reads as follows:"*If the counterparty to the reverse repurchase agreement is regulated as a credit institution or an investment firm under the applicable Union law or regulation deemed equivalent under the Union law*".

[27] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:176:FULL:EN:PDF

ii. If this is not the case, in order to ensure sufficient overcollateralization of the reverse repurchase agreement as mentioned in Article 15(1)(b) of the MMF Regulation, the following qualitative and quantitative liquidity factors shall be considered with respect to the assets mentioned in Article 15(6) of the MMF Regulation: i) time to maturity of the assets, ii) price volatility of the assets and iii) appropriate stress-testing policy, as per Article 28 of the MMF Regulation, run on a regular basis and carried out under normal and exceptional liquidity conditions to enable a relevant assessment of the liquidity risk attached to the assets composing the collateral. Depending on the above-mentioned liquidity factors, corresponding haircut on the assets composing collateral shall apply, in order to mitigate the risk of loss and offer a gap risk protection, when selling such collateral following the default of the counterparty on a very short time period. Consequently, the MMF may continue complying (i) with its investment objective of preservation of capital and/or return aligned with the money market rate in addition to with (ii) its obligations on the liability side of the portfolio. Such haircut policy should be based on existing standardized haircut, such as those established by the Basel Committee on Banking Supervision (BCBS) (http://www.bis.org/bcbs/publ/d317.pdf, appendix B).[28]

Option b) on liquidity requirements

[28] Collateral provided in the framework of reverse repurchase agreements shall be of high quality to ensure that both the investment objective of the MMF (preservation of capital and/or returns aligned with the money market rates) and its high liquidity (daily redemption date) are met, should the counterparty to the MMF defaults. As a consequence, the credit quality of the counterparties to the MMF matters as the counterparty credit risk incurred by the MMF depends on it. If such risk is limited, because it would not be likely to be realized and because the impact on the fund would be limited (based on the 15% limit exposure on any single reverse repurchase counterparty), this option suggests that no additional credit and liquidity criteria may need to be applied to the collateral.

There are various criteria that could be considered to assess the counterparty credit risk. While the European prudential regulation framework aims at ensuring an appropriate matching between the assets and liabilities of any regulated entity, this proposal includes as well any entity regulated by equivalent prudential regulation within the scope of the entities the counterparty risk of which would be considered as limited. In this proposal, European and non-European credit institution are therefore to be treated based on the same ground as long as they comply with equivalent prudential requirements.

If a counterparty to the MMF is not prudentially regulated and does not have to meet constraints to ensure an appropriate matching of its assets and liabilities, the counterparty credit risk to be incurred by the fund may be deemed higher. As a consequence, the quality of the collateral would matter. The proposal aims at ensuring that such collateral is of sufficient quality, based on the credit and liquidity characteristics of the collateral. Haircutting the assets based on their maturity and credit quality is seen as a way forward. Only assets being favorably assessed are eligible (as per methodology mentioned in articles 19 to 22 of the MMF Regulation) and depending on their maturity as a minimum, the haircut would vary. Haircut allows ensuring a sufficient over collateralization, should the MMF need to liquidate the assets over a very limited period of time, by embedding the cost of liquidity of that asset.

Reverse repurchase agreements should not provide ways to circumvent MMF regulation and allow portfolio that would not be subject to credit or liquidity constraints. If no haircuts apply and if the counterparty to the reverse repurchase agreement is not prudentially regulated, it is therefore suggested in this option that set of rules of the MMF Regulation should apply on collateral.

b. This option is based on the determination of the liquidity profile of the asset composing the collateral based on the following qualitative and quantitative liquidity requirements: i) reasonable expectations by the asset manager of the conversion to cash in one business day with a marginal impact on the market value of the investment, ii) these reasonable expectations shall be monitored on an ongoing basis and iii) under both normal and exceptional liquidity conditions in accordance with stress-tests run in accordance with Article 28 of the MMF Regulation, and taking into consideration various criteria[29]. In the case where the manager of a MMF considers that one or several assets composing the collateral no longer comply with a liquid profile, such assets shall either be replaced with liquid assets overnight or the reverse repurchase transaction(s) shall be terminated within one business day's notice);

Option c) on liquidity requirements

c. Complement the option described in a) and in b) above with a list of assets that would in any case be deemed to meet the liquidity requirements under Article 15(7) of the MMF Regulation, which could be the assets referred to as "*extremely high liquidity and credit quality*" and *"high liquidity and credit quality"* under the requirements of the abovementioned EBA report on HQLA/ Delegated Regulation 2015/61 (with respect to non-EEA assets, this could imply using the similar non-EU requirements implementing the Basel III framework and categorizations of assets on HQLA in a selected pool of non-EU countries or simply using the requirements of Articles 10 and 11 of the abovementioned Delegated Regulation 2015/61);

Option d) on liquidity requirements

d. Consider that the assets that would meet the liquidity requirements under Article 15(7) of the MMF Regulation would be those that would meet the requirements of the Articles 4(1)(c) to Article 4(1)(l) (together with Articles 6 and 7) of the EMIR delegated regulation with regard to regulatory technical standards for risk-mitigation techniques for OTC derivative contracts not cleared by a central counterparty, as described above;

Option e) on liquidity requirements

[29] Including:- the bid-ask spreads; - the size of the issue; - the frequency of trades or quotes: - the average daily trading volume;- the size of the collateral position of the MMF relative to the average daily trading volume and the size of the issue;- the issuance date and residual maturity;- the existence of an active market for the asset and the number, diversity, and quality of market participants, including the extent to which they commit to bring liquidity to the market or the daily trading volume;- the number of multilateral trading facilities where the asset is referenced;- the volatility of trading prices for the asset;- the credit quality of the issuer.

e. Consider that only the assets referred to as "*extremely high liquidity and credit quality*" and *"high liquidity and credit quality"* under the requirements of the abovementioned EBA report on HQLA / Delegated Regulation 2015/61 would be deemed to the liquidity requirements under Article 15(7) of the MMF Regulation. With respect to non-EEA assets, this could imply using the similar non-EU requirements implementing the Basel III framework and categorizations of assets on HQLA in a selected pool of non-EU countries or simply using the requirements of Articles 10 and 11 of the abovementioned Delegated Regulation 2015/61. However, such an approach might not be in line with the requirements of the latest version of the MMF Regulation since the words "high liquidity and credit quality" have explicitly been removed from the Article 15(6) of the MMF regulation in the course of the negotiations at the level of the trilogue.

Preferred option on credit quality requirements

95. In that respect, ESMA is of the view that the best option for the draft technical advice is in the case of credit quality requirements the option a) as referred to in the previous paragraph 93. ESMA is indeed of the view that this option constitutes an appropriate balance between the need for additional credit quality requirements with respect to the assets mentioned in Article 15(6)(a) of the MMF Regulation and the existing regulatory requirements, which do already apply to these assets as a direct consequence of other articles of the MMF Regulation. This option makes a clear link between the technical advice under Article 15 and the technical advice under Article 22 of the MMF Regulation.

Preferred options on liquidity requirements

96. ESMA is also of the view that the best options for the draft technical advice is in the case of liquidity requirements the options a) and b) as referred to in the previous paragraph 94. ESMA is indeed of the view that these options constitute an appropriate balance between the need for additional credit quality and liquidity requirements with respect to the assets mentioned in Article 15(7) of the MMF Regulation, and the existing regulatory requirements which do already apply to these assets, whether these requirements are a direct consequence of other articles of the MMF Regulation, or other pieces of the EU regulatory framework. Depending in particular on the outcome of the consultation, ESMA will consider whether its final advice will include (i) either option a) or b) or (ii) both options (given that both options aim to achieve the same outcome).

Questions

Q2 Which of the options described above regarding credit quality and liquidity requirements would you favour?

Q3 With respect to option a), do you think the haircut policy should be determined as suggested, or should there be more flexibility given to the manager on this determination? Do you think that the decision of equivalence vis a vis third

countries mentioned in this option should relate to the one mentioned in Article 114 (107 in the case of credit institutions) of CRR?

Q4 With respect to option b) on liquidity requirements, do you think that requiring assets convertible to cash in one business day or less is appropriate? Do you think this requirement should be more detailed and refer to trade date or settlement date, for example? With respect to that same option b), how do you think that the criteria mentioned in this proposed technical advice (annex IV in section 7 of this CP) could be defined in more detail, and how could quantitative indicators be introduced? Do you think all the criteria mentioned in Article 2(3) of this option b) are relevant? Under this option, when the liquidity assessment of the manager is that the assets would no longer be *liquid assets*, the manager shall take immediately any appropriate action including the replacement of the collateral with another asset that would be qualified as *liquid assets.* Do you think that the replacement of the collateral could be carried out overnight?

Q5 What would be in your view the consequences in terms of costs of the chosen option, and of the other options mentioned above? Do you agree with reasoning mention in the CBA (annex III) in relation to the possible costs and benefits of the options as regards the abovementioned credit quality and liquidity requirements? Which other costs or benefits would you consider in this context?

While responding to this question stakeholders might use the following table for example:

a. IT costs		**b. Training costs**		**c. Staff costs**	
IT One-off	IT Ongoing	TR One-off	TR Ongoing	ST One-off	ST Ongoing

4 Technical advice under Article 22 of the MMF Regulation

4.1 Level 1 provisions and existing legal framework

97. The MMF Regulation indicates that the manager of a MMF must establish, implement and consistently apply a prudent internal credit quality assessment procedure for determining the credit quality of money market instruments, securitisations and asset-backed commercial paper (ABCP) taking into account the issuer of the instrument and the characteristics of the instrument itself.

98. Delegated acts are aimed to specify both the criteria for the validation of the credit quality assessment methodology (and the meaning of "material change" in that context) and the criteria for quantification of the credit risk and the relative risk of default of an issuer and of the instrument in which the MMF invests (together with the criteria to establish qualitative indicators on the issuer of the instrument).

99. This section presents the existing framework on credit quality assessment in the context of the Credit Rating Agencies Regulation (CRA Regulation)[30], as well in the US in the context of the recently adopted MMF reform, before suggesting a possible way forward on the work on the issuance by ESMA of technical advice on credit quality assessment of MMFs.

Background

<u>Credit quality assessment methodology</u>

100. Under Article 19 of the MMF Regulation, the manager of a MMF must establish, implement and consistently apply a prudent internal credit quality assessment procedure for determining the credit quality of money market instruments, securitisations and asset-backed commercial paper (ABCP) taking into account the issuer of the instrument and the characteristics of the instrument itself.

101. The internal assessment procedure has to be based on prudent, systematic and continuous assessment methodologies. The methodologies used must be subject to validation by the manager of the MMF based on historical experience and empirical evidence, including back testing.

102. Under Article 22(a) of the MMF Regulation, the Commission is obliged to adopt a delegated act specifying the criteria for the validation of these credit quality assessment methodologies.

103. The manager of a MMF must ensure that this internal credit quality assessment procedure complies with the principles mentioned in Article 19(4), including the fact (Art

[30] Regulation (EC) No 1060/2009 of the European Parliament and of the Council of 16 September 2009 on credit ratings agencies

19(4)(d)) that "*while there shall be no mechanistic overreliance on external ratings" a manager of a MMF has to undertake a new credit quality assessment for a money market instrument, securitisations and ABCPs when there is a "material change*" that could have an impact on the existing assessment of the instrument.

104. Under the requirements of Article 22(d) of the MMF Regulation, the Commission is obliged to adopt a delegated act specifying the meaning of that "material change".

Criteria for the quantification of the credit risk

105. Under the requirements of Article 20 of the MMF Regulation, a manager of a MMF shall assess whether the credit quality of a money market instrument, securitisation or ABCP in which the MMF invests receives a favourable assessment in accordance with the procedure mentioned above.

106. The corresponding internal credit quality assessment has to take into account several factors and general principles mentioned in Article 20(2) of the MMF Regulation, including the quantification of the credit risk of the issuer and the relative risk of default of the issuer and of the instrument (Article 20(2)(a)).

107. Under the requirements of Article 22(b) of the MMF Regulation, the Commission must adopt a delegated act specifying the criteria for such a quantification of the credit risk and such a relative risk of default of the issuer and of the instrument.

108. Article 20(2)(b) indicates that the corresponding internal credit quality assessment shall also take into account qualitative indicators on the issuer of the instrument, including in the light of the macro-economic and financial market situation.

109. Under the requirements of Article 22(c) of the MMF Regulation, the Commission is required to adopt a further delegated act specifying the criteria to establish such qualitative indicators on the issuer of the instrument.

110. The technical advice to the Commission must cover all the points described above related to credit quality assessment. In its letter of 20 January, the Commission specifies that "*when advising the Commission on the details of the credit quality assessment pursuant to article 19, ESMA is expected to bear in mind that the default of a security held by a MMF can have negative consequences, not just for the MMF itself but also for wider financial markets*"

Existing EU requirements on credit quality assessment in the context of the CRA Regulation

Credit quality assessment methodology

111. In the context of the CRA Regulation, the Commission – based on regulatory technical standards (RTS) developed by ESMA – published a delegated Regulation on the

assessment of compliance of credit rating methodologies (447/2012)[31]. This delegated Regulation is supplemented with ESMA guidelines on the validation and review of Credit Rating Agencies' methodologies (ESMA/2016/1575)[32].

112. The delegated Regulation lays down the rules to be used in the assessment of compliance of credit rating methodologies with the requirements set out in Article 8(3) of the CRA Regulation, which states: '*A credit rating agency shall use rating methodologies that are rigorous, systematic, continuous and subject to validation based on historical experience, including back-testing*'.

113. The delegated Regulation details the meaning of the abovementioned terms '*rigorous', 'systematic',* and *'continuous'* and also specifies the corresponding requirements in relation to the methodologies used by the credit rating agencies. The delegated Regulation also specifies what should be meant by being '*subject to validation based on historical experience including back testing*'.

114. In addition to these RTS, ESMA published guidelines on the validation and review of Credit Rating Agencies' methodologies (ESMA/2016/1575) which aim at ensuring consistent application of the aforementioned Article 8(3) of the CRA Regulation and the corresponding requirements of the delegated Regulation 447/2012.

115. These guidelines clarify ESMA's expectations of the terms 'discriminatory power', 'historical robustness' and 'predictive power' used in Article 7 of the RTS on rating methodologies. In addition, these guidelines also clarify ESMA's expectations as to how CRAs with limited quantitative evidence can ensure that their methodologies are 'sensible predictors of creditworthiness', as stated in Article 8 of the RTS on rating methodologies. Finally, ESMA also clarifies its expectations on how CRAs should meet the requirement that the CRAs shall have '*processes in place to ensure that systemic credit rating anomalies highlighted by back-testing are identified and are appropriately addressed'.*

Criteria for the quantification of the credit risk

116. In the context of the CRA Regulation, ESMA has published technical advice on reducing sole and mechanistic reliance on external credit ratings (2015/1471)[33], and more recently contributed to a Joint Committee report on good supervisory practices for mitigating mechanistic reliance on credit ratings (JC 2016-71)[34]. The conclusions of both documents

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[31] http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012R0447&from=EN

[32] https://www.esma.europa.eu/sites/default/files/library/2016-1575_final_report_on_guidelines_on_the_validation_and_review_of_cras_methodologies_4.pdf

[33] https://www.esma.europa.eu/sites/default/files/library/esma-2015-1472_technical_advice_on_competition_choice_and_conflicts_of_int.pdf

[34] https://esas-joint-committee.europa.eu/Publications/Reports/JC%202016%2071%20Final%20Report%20Good%20Supervisory%20Practices%20for%20Reducing%20Mechanistic%20Reliance%20on%20Credit%20Ratings.pdf

may be of relevance given that each contains analyses on the possible composition and criteria of internal credit assessments.

117. As specified in Article 39b(1) of the CRA Regulation, the technical advice discusses a number of alternative tools to enable investors to make their own credit risk assessment of issuers and financial instruments and possible practices for the mitigation of reliance on ratings within internal credit assessments.

118. The technical advice identifies market-based measures as one particular set of alternative indicators that could be used to mitigate reliance on credit ratings either as part of an internal assessment on a stand-alone basis or supplementing the use of credit ratings. These market based alternatives are based on such market pricing data as:

- Bond prices;
- Credit spreads;
- Pricing of comparable fixed income instruments and related securities;
- Credit default swap pricing information;
- Credit default swap spreads for comparable instruments.

119. The technical advice identifies some of the advantages of market-based alternatives as being that they aggregate information from a range of market participants and reflect the actual external supply and demand for particular instruments. With regards to some of the potential disadvantages, the technical advice also discusses various statistical techniques that can be used to avoid informational irregularities (such as the use of rolling averages tailored to the individual instrument) and potential moral hazard.

120. In addition to these market-based measures the technical advice also highlights some additional assessment criteria that have been identified by the SEC as being suitable for certain market participants for the purpose of their internal credit assessments, these being:

- Default statistics;
- Financial indices;
- Securities-related research;
- Financial modelling;
- Analysis of underlying assets (particularly for structured finance instruments);
- Degree of volume and liquidity in the relevant markets;
- Analysis of the relevant market;

- Analysis of the structural aspects of the relevant instruments (including priorities and enhancements).

121. For smaller, less sophisticated institutions, market-based alternatives offer an effective and scalable alternative to full reliance on credit ratings. For larger, more sophisticated institutions the ability to use them as part of an internal assessment, in which it is not prohibited that that credit ratings could be counted as a factor, could enable market participants to structure their credit assessments in a manner that is appropriate to their business requirements.

122. Building on some of the findings of this technical advice, the Joint Committee report proposes ways in which these alternatives to credit ratings could be implemented from a supervisory perspective across a range of business processes.

Material change' that would trigger a new credit quality assessment

123. In the asset management sector, ESMA published an Opinion on the review of the CESR guidelines on a Common Definition of European Money Market Funds (2014/1103)[35]. This Opinion specified the circumstances under which a new assessment of the credit quality of the money market instruments should be carried out by the manager of the MMF (box 2 and 3 of the amended guidelines).

124. The circumstances under which a new assessment of the credit quality of the money market instruments should be carried out were described as follows in the guidelines in the case of short term MMFs (box 2 of the guidelines): '*While there should be no mechanistic reliance on such external ratings, a downgrade below the two highest short-term credit ratings by any agency registered and supervised by ESMA that has rated the instrument should lead the manager to undertake a new assessment of the credit quality of the money market instrument to ensure it continues to be of high quality*'.

125. The circumstances under which a new assessment of the credit quality of the money market instruments should be carried out were described as follows in the guidelines in the case of MMFs (box 3 of the guidelines): '*While there should not be mechanistic reliance on such external ratings, a downgrade below investment grade or any other equivalent rating grade by any agency registered and supervised by ESMA that has rated the instrument should lead the manager to undertake a new assessment of the credit quality of the money market instrument to ensure it continues to be of appropriate quality'.*

126. It is also to be noted that recital 31 of the MMF Regulation indicates that:" *Managers of MMFs should undertake a new assessment of money market instruments, securitisations and ABCP whenever there is a material change, in particular when it comes to the attention of the manager of a MMF that a money market instrument, securitisation or ABCP is*

[35] https://www.esma.europa.eu/sites/default/files/library/2015/11/10-049_cesr_guidelines_mmfs_with_disclaimer.pdf

downgraded below the two highest short-term credit ratings provided by any credit rating agency regulated and certified in accordance with Regulation (EC) No 1060/2009 of the European Parliament and of the Council[36]*. To that end, the manager of a MMF should be able to establish an internal procedure for the selection of credit rating agencies suited to the specific investment portfolio of the MMF and for determining the frequency at which the MMF should monitor the ratings of those agencies. The selection of credit rating agencies should remain consistent over time.*"

Existing requirements in the EU banking regulatory framework

127. In the context of the EU banking regulatory framework (CRD), it is to be noted that complementary approaches to the ones described above in the case of credit rating agencies have been adopted. These approaches that could also be adapted to the MMF context include the following requirements:

a. The reference to overrides[37];

b. The reference to corporate governance and oversight related issues[38].

Existing US requirements on credit quality assessment of assets held by MMFs

128. In the context of the MMF reform in the US, the SEC adopted in September 2015 amendments to remove credit rating references in the principal rule that governs money market funds and the form that money market funds use to report information to the SEC each month about their portfolio holdings (IC-31828) [39].

129. Previously, the money market fund rule required money market funds to invest only in securities that have received one of the two highest short-term credit ratings or, if they are not rated, securities that are of comparable quality. The rule also required a money market fund to invest at least 97 percent of its assets in securities that have received the highest short-term credit rating.

130. The abovementioned amendments eliminate these requirements. Instead, a money market fund is now limited to investing in a security only if '*the fund determines that the security presents minimal credit risks after analysing certain prescribed factors*'.

131. More specifically, these amendments read as follows:

[36] Regulation (EC) No 1060/2009 of the European Parliament and of the Council of 16 September 2009 on credit rating agencies (OJ L 302, 17.11.2009, p. 1)

[37] Article 172 of CRR (http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R0575&from=EN)

[38] Articles 189-191 of CRR (http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R0575&from=EN)

[39] https://www.sec.gov/rules/final/2015/ic-31828.pdf

‘*With a remaining maturity of 397 calendar days or less that the fund’s board of directors determines presents minimal credit risks to the fund, which determination must include an analysis of the capacity of the security’s issuer or guarantor (including for this paragraph the provider of a conditional demand feature, when applicable) to meet its financial obligations, and such analysis must include, to the extent appropriate, consideration of the following factors with respect to the security’s issuer or guarantor: (A) Financial condition; (B) Sources of liquidity; (C) Ability to react to future market-wide and issuer- or guarantor-specific events, including ability to repay debt in a highly adverse situation; and (D) Strength of the issuer or guarantor’s industry within the economy and relative to economic trends, and issuer or guarantor’s competitive position within its industry’.*

132. The amendments implement section 939A of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, which requires the SEC to review its rules that use credit ratings as an assessment of credit-worthiness and replace those credit-rating references with other appropriate standards.

Question

Q6. Do you agree that the abovementioned references to EU and US standards are relevant in the context of the issuance by ESMA of technical advice on credit quality assessment under the requirements of the MMF Regulation? Do you identify other pieces of national/EU/International law that would be relevant in view of the work on ESMA technical advice on credit quality assessment under the requirements of the MMF Regulation?

4.2 Proposed technical advice

Basis of the work related to the requirements of Article 22 of the MMF Regulation

133. Having regard to the abovementioned pieces of EU and international law and regulation on credit quality assessment related issues, ESMA has identified existing material on which the technical advice under Article 22 of the MMF Regulation could be based.

134. With respect to the requirements of Article 22(a) (validation of the credit quality assessment methodology), ESMA’s work could be based on similar work already done in the context of the delegated Regulation on the assessment of compliance of credit rating methodologies (447/2012) and the related ESMA guidelines on the validation and review of Credit Rating Agencies’ methodologies (ESMA/2016/1575). More specifically, this would mean that the contents of the MMF technical advice on this point would mirror the contents of Articles 4, 5, 6 and 7 of the abovementioned delegated Regulation. These Articles set out the steps that a MMF could take to ensure their methodologies meet standards of being

rigorous, subject to back testing and can accommodate instances of limited quantitative data. However, the contents of these articles would need to be adapted to the specific case of the MMF Regulation. For example, part of the contents of Article 4 is already included in Article 19 of the MMF Regulation. This would also mean that the requirements included in this technical advice could still be further specified in guidelines at a later stage, as has been the case in the abovementioned context of the Credit Rating Agencies' methodologies.

135. With respect to the requirements of Article 22(b) and 22(c) (criteria for the quantification of the credit risk and the relative risk of default of an issuer and of the instrument / criteria to establish qualitative indicators on the issuer of the instrument), ESMA's work could be based on similar work already done in the context of the ESMA technical advice on reducing sole and mechanistic reliance on external credit ratings (2015/1471) and on similar rules in the US SEC reform (IC-31828). More specifically, this would mean that the contents of the MMF technical advice on this point could mirror the approach described in the sections "Rationale for Good Practice on alternative and complementary measures to credit ratings" and "Rationale for Good Practice on proportionality" (p9 to 14) of the Joint Committee report on good supervisory practices for mitigating mechanistic reliance on credit ratings (JC 2016-71)[40]. While the JC Report is framed as good practices for supervisors, the contents of these particular sections may be of relevance to this work stream as they address some of the challenges posed by the use of internal assessments by entities of differing scale and complexity.

136. With respect to the requirements of Article 22(d) (meaning of a 'material change' that would lead to a new credit quality assessment), a material change that could have an impact on the existing assessment of the instrument may relate to all the criteria that the manager of the MMF takes into account in its credit quality assesement methodology and which are referred to in the other parts of the technical advice under Article 22 of the MMF Regulation. It should therefore also be defined what should be meant by 'material change' for the relevant criteria. In order to do so, one may use the risk factors of the stress test scenarios, including those referred to in Article 28 of the MMF Regulation. Because these risk factors would be specified in the Guidelines on stress tests (as referred to in the section 6 of this consultation paper), these would be updated every year. It is therefore suggested to refer to these risk factors that would be updated very regularly, as opposed to including in the technical advice itself specifications on the definitions of 'material change' for each abovementioned criteria, because in this case, these specifications could not easily be changed on a regular basis once published in the corresponding delegated act.

137. In addition ESMA's work may also be partly based on the ESMA Opinion on the review of the CESR guidelines on a Common Definition of European Money Market Funds (2014/1103). ESMA's work on this point could not, however, be solely based on these guidelines because this could be seen as contradictory with the other requirements of the

[40] https://esas-joint-committee.europa.eu/Publications/Reports/JC%202016%2071%20Final%20Report%20Good%20Supervisory%20Practices%20for%20Reducing%20Mechanistic%20Reliance%20on%20Credit%20Ratings.pdf

MMF Regulation that imply not to solely rely on ratings. One way of addressing this issue would be to consider that the abovementioned criteria specified in the CESR guidelines would not *per se* automatically lead to a new result of the credit quality assessment. Instead, these criteria would trigger one part of the mechanism of the internal credit quality methodology specified in Articles 20 of the MMF Regulation that would in itself lead or not, taking into account other criteria than external ratings, to a new result of the assessment. For each of these other criteria, the internal credit quality assessment referred to in the technical advice under Article 22 of the MMF Regulation would include specifications on what is meant by a '*material change'* and would also specify the interaction between the definitions of these 'material changes' for each of the criteria and the extent to which these material changes would lead to the need for a new credit quality assessment. This two-steps approach would be in line with the abovementioned requirements of the recital 31 of the MMF Regulation.

Question:

Q7. Do you agree with the proposed option on each of the requirements mentioned in Article 22 of the MMF Regulation? If not, could you specify which existing regulatory framework would you suggest as a basis for the work on the technical advice related to Article 22 of the MMF Regulation?

<u>Principle based approach vs prescriptive and standardized methodology (both on the validation of the credit quality assessment methodology and the criteria for the quantification of the credit risk)</u>

138. Given in particular that the existing work in the area of rating agencies is, as set out above, mostly principles-based, and given the structure of the MMF market, it is suggested that the technical advice to be developed under Article 22 – both on the validation of the credit quality assessment methodology and the criteria for the quantification of the credit risk – should aim for a broadly similar level of detail and prescription as the delegated Regulation on the assessment of compliance of credit rating methodologies (447/2012), and the technical advice on reducing sole and mechanistic reliance on external credit ratings (2015/1471).

139. It is also important to mention that a prescriptive approach might create systemic risk if all managers of MMF use the same methodology and are invested in the same assets.

140. This would not prevent ESMA specifying in subsequent guidelines any point that would need to be detailed further. This would be in line with the approach taken in the context of the abovementioned delegated Regulation on the assessment of compliance of credit rating methodologies, and would also allow ESMA to issue its technical advice in the requested timeframe.

Question:

Q8. In your view, what would be the consequences (including operational ones) of the level of detail and prescription suggested above in the proposed technical advice on credit quality assessment under the MMF Regulation (which would be broadly similar as in the delegated Regulation on the assessment of compliance of credit rating methodologies (447/2012), and in the technical advice on reducing sole and mechanistic reliance on external credit ratings (2015/1471))?

Proposed approach in relation to the criteria for the Credit quality assessment (technical advice under Article 22(b) and 22(c) of the MMF Regulation) (that support the proposed draft of the corresponding technical advice included in Annex 7.IV)

General principles on internal credit quality assessments

141. Internal credit quality assessments are a way for managers of MMFs to make their own credit risk assessments to avoid solely or mechanistically relying on credit ratings. These internal assessments can incorporate a wide range of qualitative and quantitative criteria such as market-based pricing, independent analysis and other relevant criteria. The number of criteria referenced and the sophistication of the underlying methodology can be adapted to the individual business needs of the MMF.

142. In this regard, it is important that an internal credit quality assessment methodology is supported by a defined and objective methodology that clearly establishes the rationale behind the inclusion, weighting and relevance of the referenced criteria.

143. Regarding the specific criteria to be included in an internal assessment a level of discretion should be left to the manager of an MMF in order to avoid creating the potential for systemic risk. However, it is possible to suggest a non-exhaustive list of criteria that could be included such as market-based pricing indicators, financial information relating to the issuer, securities related research, analysis of the underlying assets or market and default statistics.

144. While it is not discounted that credit ratings could be included as criteria within an internal assessment, they should be supplemented with a sufficient number of other relevant criteria, in order to ensure mechanistic reliance on credit ratings is avoided.

Market-based Measures

145. Examples of quantitative criteria that can be used as part of an internal credit quality assessment are market-based measures. For the purposes of avoiding sole or mechanistic reliance on credit ratings, such criteria can be used either on a standalone basis (complementing external credit ratings) or as criteria within an internal credit risk

assessment. Market-based alternatives are based on market-based pricing information, and can include:

(i) Bond pricing information, including credit spreads and pricing of comparable fixed income instruments and related securities;
(ii) Credit default-swap pricing information, including credit default-swap spreads for comparable instruments.

146. Some of the advantages of market-based alternatives are that they aggregate information among a range of market participants and reflect actual external supply and demand for particular instruments. To the extent market-based alternatives are available, they frequently are relatively low cost and it has been demonstrated that they are generally more responsive than credit ratings.

147. In terms of disadvantages, however, it is recognised that at times of market stress some market-based alternatives may not be available for all instruments (e.g. illiquid CDS markets) or capable (such as the pricing of similar bond issuances) of providing managers with a clear reference point on which to make a judgement on the relative credit risk of an issuance or entity.

148. For the purpose of this discussion on quantitative market-based measures, it is intended to focus on these two main categories, bond pricing and credit default swap pricing.

(i) Bond Pricing Information

149. Under certain circumstances, bond pricing information can be used as an alternative measure of the creditworthiness of an issuance or of an entity and can be used as a criteria within an internal assessment or as a standalone additional reference point. In this regard, there is a range of data based on bond prices that potentially can be used such as credit spreads, pricing of comparable fixed income instruments, and pricing of related securities.

150. Credit spreads are a commonly used statistic in the financial markets. Market participants commonly calculate credit spreads on bonds based on pricing information, and construct “credit curves” for particular issuers (e.g. corporate or sovereign etc.) based on the price points derived from bonds of various maturities.

151. Credit spreads reflect market participants’ assessment of the credit risk associated with a bond. A credit spread generally describes the difference between the yield to maturity of a particular bond and the yield to maturity of a risk free bond of similar structure and maturity. For example, if a firm has issued 10-year bonds, then the credit spread could be calculated by subtracting the yield to maturity on those bonds from the yield to maturity of a corresponding risk-free bond. In terms of disadvantages, it is relevant to note that there can be difficulties in the assessment of

credit spreads, depending on the structural features of bonds (e.g. call-ability, amortization) and on the availability of comparable bond pricing information.

152. In addition to credit spreads, the pricing of comparable fixed income instruments and related securities can also be used to provide market-based information about the credit risk associated with particular instruments. For example, the manager of a MMF could obtain information about the credit spreads associated with similar and competing corporations with respect to corporate bonds, or similar countries with respect to sovereign bonds. The manager of a MMF could also obtain information about the credit spreads associated with different bond risks during different periods of time. All of this information can be helpful in assessing the credit risk of a particular issuer or instrument.

153. In terms of arguments against the use of bond pricing information, one such argument is that that bond prices are volatile, or reflect short-term market changes and therefore might not be relevant to a particular (longer term) investment or regulatory objective. However, given that MMFs have an objective of preserving the value of the investment by investing in short-term assets, bond-pricing information might be of greater use to the assessment of credit risk by managers of MMFs. In any case, market reactions, even in the short term, can be valuable indicators of information about risk. Bonds with high price volatility generally pose risks that arguably should be taken into account by managers of MMFs even if there is little or no credit rating volatility associated with such bonds.

154. Nevertheless, to the extent there would be concerns about price volatility or short-term price changes, those concerns can be overcome by using statistical techniques, such as moving averages of available prices. For example, the use of a 30-day or 90-day moving average of bond credit spreads or bond pricing information.

155. Moreover, a longer-term moving average would not be subject to the same drawbacks with respect to volatility and the short-term nature of bond prices. On the contrary, however, moving averages based on too long time periods may not be sufficiently responsive to signal relevant market information. Hence, in this context managers of MMFs should select the optimal time length to use depending on the specific business application, and could implement periods of weeks, months, or even longer if appropriate.

(ii) Credit Default Swap Pricing Information

156. In addition to bond pricing information, for many counterparties there is pricing information for credit default swaps, or CDS. In a typical CDS transaction, one counterparty (the buyer of protection) agrees to pay a periodic premium to the other counterparty (the seller of protection). In return, the seller of protection agrees to compensate the buyer of protection if a reference entity specified in the CDS contract experiences a default or similar "credit event." For simple CDSs, the reference entity might be a corporation or government entity. For more complex CDSs, the reference

entity might be a portfolio of structured financial instruments. Parties usually document the various CDS terms through a standard ISDA or similar form of agreement.

157. CDS ’prices’, as measured in the market, represent the size of the premium paid by the buyer of protection and are generally known as CDS “spreads.” CDS spreads change over time based on supply and demand for particular CDS contracts. CDS spreads are analogous to insurance premiums and similarly reflect market participants’ assessment of the risk of a default or credit event associated with the underlying obligation.

158. Where CDSs are widely and deeply traded, they help to reflect market information about the credit risk of underlying financial obligations. CDS markets generally reflect valuable information, and reflect that information more promptly than changes in credit ratings, even during periods of intense market discord. For example, the increase in CDS spreads witnessed during 2007 and 2008 as information became available, may have suggested that the credit quality of financial institutions was decreasing.

(iii) Other Alternative Assessment Criteria

159. Bond and CDS pricing are not the only market-based criteria that the manager of an MMF may refer to when carrying out its assessment of the credit risk relating to an issuer and instrument. Examples of these other criteria are; benchmarks or financial indices, default statistics, financial information relating to the issuer, or securities related research.

160. In this regard, it is worth considering the approaches identified by the U.S. Securities and Exchange Commission (SEC) in this context. The SEC has identified several other criteria that may be considered when assessing credit risk:

- Securities-related research (i.e. whether providers of research about securities or money market instruments believe the issuer of the security or money market instrument will be able to meet its financial commitments, generally, or specifically, with respect to securities or money market instruments);

- Default statistics (i.e. whether providers of credit information relating to securities or money market instruments express a view that specific securities or money market instruments (or their issuers) have a probability of default consistent with other securities or money market instruments that have only a minimal amount of credit risk);

- Inclusion in an index (i.e. whether a security, money market instrument, or the issuer of a security or money market instrument, is included as a component of a recognized index of instruments that have only a minimal amount of credit risk);

- Enhancements and priorities (i.e. the extent to which a security or money market instrument is covered by credit enhancements, such as overcollateralization and

reserve accounts, or has priority under applicable bankruptcy or creditors' rights provisions);

- Asset class-specific factors (e.g. in the case of structured finance products, the quality of the underlying assets)."

Assessment of the Issuer or Instrument

161. In order to clearly establish what is to be assessed by a given set of quantitative and qualitative criteria relating to an issuer, it is proposed that the approach adopted by the SEC, referred to in paragraph 131 of this document, could be provided as a minimum framework.

162. In this regard, the manager of an MMF could conduct an examination of the issuer or instrument according to a set list of relevant attributes, namely, financial condition, sources of liquidity, market wide events and competitive position.

163. For example, in order to assess the financial condition of an issuer the manager may refer to recent financial statements, considering trends relating to cash flow, revenue, expenses, profitability, short-term and total debt service coverage and leverage.

164. For sources of liquidity, the manager may refer to consideration of bank lines of credit and alternative sources of liquidity. For an assessment of market wide events, the manager of an MMF could include an analysis of risk from various scenarios, including changes to the yield curve or spreads. For the competitive position of the issuer, the manager could consider diversification of sources of revenue of the issuer.

<u>Draft technical advice under Article 22 of the MMF Regulation</u>

165. The corresponding technical advice under Article 22 of the MMF Regulation proposed by ESMA is presented in Annex 7.IV of this consultation paper.

Q9 What would be in your view the consequences in terms of costs of the chosen options described above in relation to the requirements included in the technical advice under Article 22 of the MMF Regulation? Do you agree with the assessment of costs and benefits mentioned in the CBA (annex III) on the technical advice under Article 22 of the MMF Regulation? If not, please explain why and provide any available quantitative data that the proposal would imply.

166. While responding to this question stakeholders might use the following table for example:

a. IT costs	b. Training costs	c. Staff costs

IT One-off	IT Ongoing	TR One-off	TR Ongoing	ST One-off	ST Ongoing

5 Implementing technical standards to establish a reporting template

5.1 Level 1 provisions and existing legal framework

167. The MMF Regulation (Article 37) obliges the manager of the MMF, for each MMF managed, to report information to the competent authority of the MMF, at least on a quarterly basis. The frequency of reporting is annual in the case of a MMF whose assets under management in total do not exceed EUR 100 million.

168. These reports need to include a number of elements listed in the Regulation, and ESMA is required to develop draft implementing technical standards (ITS) to establish a reporting template that contains the relevant information. ESMA has to submit those draft ITS to the Commission by 6 months after the entry into force of the Regulation. It is to be noted that Article 37(2) of the MMF Regulation also specifies that in addition to this list of information "*If necessary and duly justified, competent authorities may solicit additional information*".

169. It is to be noted that these ITS relate only to the contents (expressed in Word format) of the information that would be included in the reporting template that would be used by managers of MMFs. The corresponding technical format of that reporting template will be specified later.

170. This section describes the proposed way forward in establishing the reporting template. Annex 7. IV presents i) a proposed text of the ITS ii) a proposal for a reporting template.

Background

171. Under the requirements of Article 37(4) of the MMF Regulation, ESMA is required to develop draft ITS to establish a reporting template that contains for each MMF the following information:

(a) the type and characteristics of the MMF;

(b) portfolio indicators such as the total value of assets, NAV, WAM, WAL, maturity breakdown, liquidity and yield;

(c) the results of stress tests and where applicable the proposed action plan;

(d) information on the assets held in the portfolio of the MMF:

(i) the characteristics of each asset, such as name, country, issuer category, risk or maturity, and the outcome of the internal credit assessment procedure;
(ii) the type of asset, including details of the counterparty in the case of derivatives, repurchase agreements or reverse repurchase agreements;

(e) information on the liabilities of the MMF that includes the following points:
(i) the country where the investor is established;
(ii) the investor category;
(iii) subscription and redemption activity.

172. ESMA is also required to develop draft ITS to establish a reporting template that contains for each LVNAV MMF (in addition to the information mentioned in the previous paragraph) the following information:

(a) every event in which the price of an asset valued by using the amortised cost method in accordance with the first subparagraph of Article 29(7) deviates from the price of that asset calculated in accordance with Article 29(2), (3) and (4) by more than 10 basis points;

(b) every event in which the constant NAV per unit or share calculated in accordance with Article 32(1) and (2) deviates from the NAV per unit or share calculated in accordance with Article 30 by more than 20 basis points;

(c) every event in which a situation mentioned in Article 34(3) occurs and the measures taken by the board in accordance with points (a) and (b) of Article 34(1).

Existing EU requirements in the asset management sector on reporting templates (AIFMD)

173. While there is currently no reporting template in the UCITS framework similar to the one envisaged in the MMF Regulation, the AIFMD framework can be a good source of inspiration since: i) as in the case of the MMF Regulation, the Commission and ESMA first

had to establish a reporting template[41] ii) the functioning of the AIFMD database is the same as that envisaged in the MMF Regulation (managers send reports to NCAs, who then pass the information to ESMA for inclusion in a central database).

5.2 Proposed implementing technical standards

Interaction with the AIFMD database and reporting requirements

174. Having regard to the abovementioned similarities between the AIFMD database and the envisaged MMF one, one of the first key principles underlying the establishment of the required reporting template would ideally be to rely as much as possible on the work already done on the establishment of a reporting template in the case of the AIFMD database.

175. This means, in particular, that:

i) to the extent that this is possible from a legal standpoint, the same type of information should not be requested and expressed in two different ways in the two contexts of the AIFMD and MMF reporting requirements (e.g. the same types of indicators should be defined the same way); and

ii) a situation when the same manager would have to provide the same information both in the AIFMD and in the MMF database should be avoided, to the extent that this is possible from a purely IT/technical point of view.

176. However, there are a number of limitations to this exercise. First, the list of information to be provided by managers explicitly mentioned in the MMF Regulation differs to a large extent from the one included in the AIFMD database. Secondly, in some instances (e.g. the typology of assets) the typology of information (i.e. the way the information has to be categorized), also differs as compared to the one included in the AIFMD database. Thirdly, the competent authority that will receive the reports under the MMF framework is the competent authority of the MMF (Article 37(1)) while for the same MMF (when this is an AIF) the competent authority that will receive the reports under the AIFMD framework is the competent authority of the AIFM (the manager of the MMF). In some cases these will not be the same NCA. In addition, the Legal Entity Identifier (LEI), which could allow ESMA to identify the MMF(AIF) in such a situation, is not a mandatory requirement under the AIFMD reporting framework. Finally, the frequency of reporting may differ for a given MMF between the AIFMD and the MMF reporting requirements.

177. From an IT standpoint, and while it is still premature to anticipate the details of this aspect of the database, it is also worth mentioning that the format of the MMF reports might use the ISO 20022 Standard currently used in the context of the MiFIR and EMIR reporting

[41] Annex IV of the Delegated Regulation 231/2013 and ESMA's guidelines on reporting obligations 2013/1339

requirements, and which will therefore differ from the AIFMD one. In order to establish a homogeneous reporting, this technical format will define in particular the format of each element, the order in which these elements should appear, and which of these elements are mandatory or optional. It would also ensure that the reported data are compliant with the defined syntax rules. ESMA will carefully assess the needs of market participants and NCAs when determining the exact date when the abovementioned reporting obligations will start for the first time, and will in particular consider the merits of setting this date as a Monday.

178. On the one hand, it is therefore suggested to apply as strictly as possible the principle expressed above (the same type of information should not be requested and expressed in two different ways in the AIFMD and MMF reporting requirements), even though it might be in some cases necessary to depart from this principle because of the different nature of the AIFMD and MMF databases. On the other hand, from a technical point of view, given the limitations described above, it is suggested to depart from the principle included in paragraph 171(ii), so that the two AIFMD and MMF databases would be dealt with separately (which means that AIF MMFs will have to report separately under the AIFMD and the MMF Regulation).

ITS and guidelines

179. As mentioned above, in the context of the AIFMD database, while the reporting template itself was included in Annex IV of the Delegated Regulation 231/2013, there was a need to supplement this information with ESMA guidelines on the reporting obligations (2014/869)[42]. These guidelines included in particular IT-related specifications on the contents of the reporting template in order to facilitate the standardisation of the exchange of information.

180. In the context of the MMF Regulation, the ITS will effectively be the equivalent of Annex IV of the Delegated Regulation 231/2013 in the AIFMD context.

181. In that case, it is likely that there would be a need to supplement these ITS with guidelines and IT guidance, as in the case of the AIFMD database. The timing of publication of such guidelines should be consistent with the timing of the establishment of the MMF database mentioned in Article 37(5) of the MMF Regulation.

Contents of the proposed ITS and reporting template

182. Annex 7.IV presents ESMA's proposals for i) the ITS and ii) the reporting template. The latter follows the structure of the list of information mentioned in Article 37(2) and 37(3) of the MMF Regulation.

[42] https://www.esma.europa.eu/sites/default/files/library/2015/11/2014-869.pdf

183. With respect to the ITS, the MMF Regulation (Article 37(5)) indicates "Competent authorities shall transmit to ESMA all information received pursuant to this Article. Such information shall be transmitted to ESMA no later than 30 days after the end of the reporting quarter". However, Article 37(1) specifies that "For a MMF whose assets under management in total do not exceed EUR 100 million, the manager of the MMF shall report to the competent authority of the MMF at least on an annual basis". While from a legal standpoint it is not possible to modify this inconsistency in the text of the ITS itself, it is suggested to replace later on in the guidelines and/or IT guidance that will specify the contents of these ITS "quarter" with "period" to cover all cases.

184. With respect to the information included in the reporting template, ESMA was of the view that at the stage of the consultation paper, it is appropriate to suggest several possible options for various fields of this template so that stakeholders could as clearly as possible indicate their preferred option(s). This is in particular the case with respect to the information on the "characteristic" of the MMF, its returns, performance, liquidity profile or stress tests. This does not mean, however, that these various options included in this version of the reporting template[43] will still be included in the final version of the reporting template.

185. With respect to the information mentioned in Article 37(2)(a) of the MMF Regulation, ESMA is of the view that the "characteristics" of the MMF in this paragraph could include: i) information on the Identification of the manager of the MMF ii) information on the identification and time horizon of the MMF iii) information on share classes of the MMF iv) Information on the preceding fund or liquidation.

Q10 Do you think other types of information should be considered as "characteristics" of the MMF?

186. With respect to the information mentioned in Article 37(2)(b) of the MMF Regulation, ESMA is also of the view that the liquidity indicators that should be considered could be inspired by those used in the AIFMD reporting template, so that managers do not report to their NCA twice in a different way the same type of information. However, those indicators would have to be adapted to the MMF context. It is to be noted that ESMA did not consider including information on the destruction of shares because the understanding of ESMA is that the destruction of shares is not allowed under the MMF Regulation[44].

187. With respect to the information mentioned in Article 37(2)(b) of the MMF Regulation, ESMA is also of the view that the yield could be expressed as the 7-days gross yield, as in

[43] presented below in Annex 7.IV

[44] this is in particular because of the combination of the requirements of the article 1.1 of the MMF Regulation ("This Regulation applies to CIU that :[…] have distinct or cumulative objectives offering returns in line with money market rates or preserving the value of the investment") and 2.11 of the MMF Regulation ("Definition of public debt CNAV : […] a) that seeks to maintain an unchanging net asset value per unit or share, b) where the income in the fund is accrued daily and can either be paid out to the investor or used to purchase more units or shares in the funds" (the Regulation therefore does not mention that they can be used to delete share))

the SEC MMF context, or as the yield to maturity. ESMA is also of the view that cumulative returns, calendar performance and portfolio volatility should also be reported.

Q11 Do you agree with the proposed way of reporting the yield of the MMF? If not, could you indicate what would be the more appropriate way to report yield in your views? Do you think the 7-days gross yield should be reported for each week of the reporting period? If not, what should be the appropriate frequency of reporting on this item?[45] Do you think that the calendar year performance and yield could be calculated at (sub)fund level and at share class level? Which difficulties do you identify while doing so? At which frequency should it be reported?

188. With respect to the information mentioned in Article 37(2)(c) of the MMF Regulation, ESMA is also of the view that this should benefit from the parallel work done in the context of the Guidelines on stress testing of MMFs (please refer to section 6 of this consultation paper). It is suggested, therefore, to clarify that the results of the stress tests should be specified according to the requirements of these guidelines. It is also suggested to specify that the manager should include an explanation of the methodology used to compute these stress tests scenarios.

189. With respect to the information mentioned in Article 37(2)(d) of the MMF Regulation, ESMA is of the view that this information should include in particular, in addition to the information explicitly mentioned in this Article 37(2)(d), the following items: i) the code of the asset ii) the LEI of the Issuer iii) the exposure / market value of the asset iv) the name and LEI of the counterparty v) the outcome of the internal credit assessment procedure.

190. With respect to the information mentioned in Article 37(2)(e) of the MMF Regulation, ESMA is of the view that this information should include; i) information on the investor concentration; ii) the breakdown of investor concentration by status of investors; iii) the geographical breakdown of investors by country; and iv) information on liquidity management. With respect to the information on redemptions, it is suggested to make use of the information already requested in the context of the AIFMD reporting template so that managers do not report twice the same information in a different way.

Q12 Which type of measure would you suggest using to report the quantified outcome of the credit assessment procedure?

Q13 With respect to reverse repurchase agreements, do you agree that the information requested is appropriate? With respect to repurchase agreements, do you think the value of cash received should be reported as a breakdown per investment purposes, i.e. liquidity management or investment in assets referred to in Art 15(6)? (given the information on the amount of cash received as part of repurchase agreements that is also requested). What should be the appropriate frequency of reporting on this information? Do you think the value of unencumbered

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[45] in order in particular to build meaningful time series to be used for understanding the activity of a fund and for analysis purposes.

cash should be reported as a breakdown per country where the bank account is located and currency? (given the information on deposits that is also requested)

Q14 Do you think the information on the investor 'lock-up' period in days (report asset weighted notice period if multiple classes or shares or units) is relevant in the case of MMFs (this information is included in the AIFMD reporting template)? Do you agree with the proposed way to report stress tests?

Q15 Do you identify other type of information that should be included in the requested information in the reported template? What would be in your view the consequences in terms of costs of the proposed options for the reporting template? Do you agree with the assessment of costs and benefits above for the proposal mentioned in the CBA (Annex III) on the reporting template? If not, please explain why and provide any available quantitative data on the one-off and ongoing costs (if any) that the proposal would imply. Do you have specific views on the potential use of the ISO 20022 standard?

While responding to this question stakeholders might use the following table for example:

a. IT costs		**b. Training costs**		**c. Staff costs**	
IT One-off	IT Ongoing	TR One-off	TR Ongoing	ST One-off	ST Ongoing

6 Guidelines on stress test scenarios

6.1 Level 1 provisions and existing legal framework

191. The MMF Regulation obliges each MMF to have in place sound stress testing processes that allow the identification of possible events or future changes in economic conditions which could have unfavourable effects on the MMF. The MMF or its manager has to assess the possible impact that those events or changes could have on the MMF. The manager of a MMF must regularly conduct stress testing for different possible scenarios, and those stress tests must be based on objective criteria and consider the effects of severe plausible scenarios.

192. This section presents the existing framework in the UCITS Directive and AIFMD on stress testing, as well the ongoing discussions on this topic within international fora (FSB and the ESRB), and in the US in the specific case of the newly adopted MMF reform, before suggesting a possible way forward on the issuance by ESMA of guidelines on stress testing of MMFs.

Background

193. Under the requirements of Article 28 of the MMF Regulation, ESMA is obliged to issue guidelines with a view to establishing common reference parameters of these stress test scenarios taking into account the following factors:

a) hypothetical changes in the level of liquidity of the assets held in the portfolio of the MMF;

b) hypothetical changes in the level of credit risk of the assets held in the portfolio of the MMF, including credit events and rating events;

c) hypothetical movements of the interest rates and exchange rates;

d) hypothetical levels of redemption;

e) hypothetical widening or narrowing of spreads among indexes to which interest rates of portfolio securities are tied;

f) hypothetical macro systemic shocks affecting the economy as a whole.

194. Although the Regulation does not prescribe a deadline for the issuance of the guidelines, the text does specify that they need to be updated at least every year taking into account the latest market developments.

Existing EU requirements in the asset management sector on Stress Testing (Directives, Implementing acts, CESR/ESMA guidelines)

UCITS framework

195. In the UCITS framework, Article 40(2)(c) of the Implementing Directive 2010/43 indicates that management companies shall "*conduct, where appropriate, periodic stress tests and scenario analyses to address risks arising from potential changes in market conditions that might adversely impact the UCITS*".

196. Paragraph 45 of the ESMA Guidelines on ETFs and other UCITS issues (2014/937) discusses the specific issue of stress testing in relation to the liquidity risk attached to the collateral ("*A UCITS receiving collateral for at least 30% of its assets should have an appropriate stress testing policy in place to ensure regular stress tests are carried out under normal and exceptional liquidity conditions to enable the UCITS to assess the liquidity risk attached to the collateral*").

197. CESR's Guidelines on Risk Measurement and the Calculation of Global Exposure and Counterparty Risk for UCITS (10-788) include various requirements (both qualitative and quantitative) on stress testing for UCITS using VaR, as well as a definition of stress tests (boxes 19, 20, 21 and 23, while the definition of stress testing is on page 42 of the Guidelines). In that context, stress testing is defined as "*a process to establish how the portfolio would react to changing conditions in the markets. Stress testing aims to identify extreme events that could trigger catastrophic losses in a given portfolio*" (emphasis added). The Guidelines include in particular the following requirement: "*The stress testing program should be designed to measure any potential major depreciation of the UCITS value as a result of unexpected changes in the relevant market parameters and correlation factors. Conversely, where appropriate, it should also measure changes in the relevant market parameters and correlation factors, which could result in major depreciation of the UCITS value*".

AIFMD framework

198. Article 15(3)(b) of the AIFMD indicates that AIFMs shall "*ensure that the risks associated with each investment position of the AIF and their overall effect on the AIF's portfolio can be properly identified, measured, managed and monitored on an ongoing basis, including through the use of appropriate stress testing procedures*" (emphasis added).

199. Article 16(1) of the AIFMD addresses the issue of stress testing in the context of liquidity risk: "*AIFMs shall regularly conduct stress tests, under normal and exceptional liquidity conditions, which enable them to assess the liquidity risk of the AIFs and monitor the liquidity risk of the AIFs accordingly*" (emphasis added).

200. Recitals (61) to (63) and Article 48 of the Delegated Regulation 2013/31 specify the way those stress tests mentioned in Article 16(1) of the AIFMD are to be conducted. In

particular, Article 48 specifies that stress tests "*shall where appropriate, simulate a shortage of liquidity of the assets in the AIF and atypical redemption requests; cover market risks and any resulting impact, including on margin calls, collateral requirements or credit lines; account for valuation sensitivities under stressed conditions*" (emphasis added).

201. The results of the stress tests mentioned in Articles 15(3)(b) and 16(1) of the AIFMD must be reported to NCAs[46] (who must then pass the information on to ESMA) but the parameters for the stress tests are not prescribed at EU level i.e. it is left to the discretion of the manager.

Current work on stress testing in the asset management sector in international fora (FSB)

FSB recommendations

202. In January 2017 the FSB adopted policy recommendations to address structural vulnerabilities from asset management activities[47], including on stress tests:

a. Recommendation 6: Authorities should require and/or provide guidance on stress testing at the level of individual open-ended funds to support liquidity risk management to mitigate financial stability risk. The requirements and/or guidance should address the need for stress testing and how it could be done. In this regard, IOSCO should review its existing guidance and, as appropriate, enhance it.

b. Recommendation 9: Where relevant, authorities should give consideration to system-wide stress testing that could potentially capture effects of collective selling by funds and other investors on the resilience of financial markets and the financial system more generally.

Recently adopted MMF reform in the US and the related requirements on stress testing

203. In the U.S, the MMF reform adopted in 2014 already included requirements on stress testing in relation to liquidity risk and to the variation of the NAV[48]. It includes in particular the following requirements (emphasis added):

"*The periodic stress testing, at such intervals as the board of directors determines appropriate and reasonable in light of current market conditions, of the money market fund's ability to have invested at least ten percent of its total assets in weekly liquid assets, and the fund's ability to minimize principal volatility (and, in the case of a money market fund using the amortized cost method of valuation or penny rounding method of pricing as*

[46] Page 94 of the Delegated Regulation 2013/31

[47] http://www.fsb.org/wp-content/uploads/FSB-Policy-Recommendations-on-Asset-Management-Structural-Vulnerabilities.pdf

[48] From p553 and 835 of the Release No. 33-9616
https://www.sec.gov/rules/final/2014/33-9616.pdf

provided in paragraph (c)(1) of this section, the fund's ability to maintain the stable price per share established by the board of directors for the purpose of distribution, redemption and repurchase), based upon specified hypothetical events that include, but are not limited to:
(A) Increases in the general level of short-term interest rates, in combination with various levels of an increase in shareholder redemptions;
(B) A downgrade or default of particular portfolio security positions, each representing various portions of the fund's portfolio (with varying assumptions about the resulting loss in the value of the security), in combination with various levels of an increase in shareholder redemptions;
(C) A widening of spreads compared to the indexes to which portfolio securities are tied in various sectors in the fund's portfolio (in which a sector is a logically related subset of portfolio securities, such as securities of issuers in similar or related industries or geographic region or securities of a similar security type), in combination with various levels of an increase in shareholder redemptions; and
(D) Any additional combinations of events that the adviser deems relevant."

204. It is to be noted that the criteria (A), (B) and (C) above are relatively similar to the criteria mentioned in Article 28(1)(c) (b) (d) and (e) of the MMF Regulation.

Questions

Q16. Do you agree that the abovementioned references to EU/international standards are relevant in the context of the issuance by ESMA of guidelines on stress testing of MMFs? Do you identify other pieces of EU/International law that would be relevant in view of the work on ESMA guidelines on stress testing of MMFs?

6.2 Proposed guidelines

Possible way forward on the issuance by ESMA of guidelines on stress testing of MMFs

Interpretation of the scope and objectives of the stress testing procedure of MMFs under the requirements of Article 28 of the MMF Regulation

205. Having regard to the various abovementioned pieces of EU and international law/regulation on the stress testing of investment funds, it is to be noted that stress testing of funds can be defined in different ways. It can be:

a. An analysis of the impact of criteria (X, Y, …) on the portfolio or net asset value of the fund (c.f. UCITS using VaR or Article 15(3)(b) of the AIFMD);
b. An analysis of the impact of criteria (X, Y, …) on the volatility of the portfolio or net asset value of the fund (as in the U.S. MMF framework);

c. An analysis of the impact of criteria (X, Y, …) on the liquidity bucket(s) of the fund (as in the U.S. MMF framework);
d. An analysis of the impact of criteria (X, Y, …) on the ability of the manager to meet investors' redemption requests;
e. In the case of CNAV and LVNAV MMFs, an analysis of the impact of criteria (X, Y, …) on the the difference between the constant NAV per unit or share and the NAV per unit or share (as explictly mentioned in Article 28(2) of the MMF Regulation).

206. Apart from the requirement mentioned in e) above, Article 28 of the MMF Regulation indicates that MMFs must put in place "*sound stress testing processes that identify possible events or future changes in economic conditions which could have unfavourable effects on the MMF*".

207. This leaves room for interpretation on the exact meaning of the "effects on the MMF", having in mind the different possible interpretations mentioned above in a) to d). It is, however, also possible to interpret broadly the wording of Article 28(1) and therefore including various possible definitions (for example, a) and c) or d) above). This broad interpretation would be in line with the stress-testing framework of the AIFMD, which includes both meanings in Articles 15(3)(b) and 16(1). [49]

208. ESMA is of the view that the combination of the abovementioned definitions (for example, a) and c) or d) above) could be the more appropriate interpretation of the Article 28 of the MMF Regulation and that the ESMA guidelines on stress testing should specify this point. The method of combining the various risk factors with investors' redemption requests would be further specified in each of these sections on these different risk factors.

[49] With respect to liquidity, it is to be noted that liquidity risk u may result from: (i) significant redemptions; (ii) illiquid assets; or (iii) a combination of the two.

209. A practical example of such a combination is given below:

The table below estimates the losses incurred by the money market fund in the event of redemptions or market stress (credit or interest rate shocks).

First scenario: credit premium shock of 25 bps

Second scenario: interest rate shock of 25 bps

			Three largest investors (25%) ↓							Very stable investors (15%) ↓
Redemptions	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%
Initial portfolio			2 bps	3 bps	5 bps	6 bps	8 bps	9 bps	11 bps	12 bps
First scenario	7 bps	9 bps	13 bps	18 bps	24 bps	32 bps	45 bps	66 bps	110 bps	236 bps
Second scenario	3 bps	4 bps	6 bps	9 bps	12 bps	16 bps	21 bps	28 bps	38 bps	85 bps
WAL (days)	105	117	131	149	169	192	219	249	290	320

This stress test shows that a redemption by the three largest investors (25% of net assets) would push the weighted average life (WAL) beyond the 120-day regulatory threshold (for a short-term money market fund) and cause the portfolio to lose in the region of 2-3 bps under normal conditions. The same level of cumulative redemptions with a 25 bps rise in interest rates would cause a loss of around 13-18 bps.

Questions:

Q17. Do you have specific views on the interpretation of the requirements of Article 28(1) of the MMF Regulation on the meaning of the abovementioned "effects on the MMF"?

Historical scenarios vs hypothetical scenarios

210. With respect to both stress scenarios the portfolio or net asset value of the MMF and ii) the liquidity bucket(s) of the MMF and/or the ability of the manager of the MMF to meet investors' redemption requests, managers could use the different risk factors using either historical or hypothetical scenarios.

211. Historical scenarios reproduce the parameters of previous crises and deduce the impact they would have had on the MMF. Because nothing suggests that future crises will be similar to previous ones, and because it might be difficult to replicate accurately previous crises because of a lack of data (for example in terms of the historic correlation of risk factors), particularly going back more than a decade, it would not be appropriate to rely solely on these historical scenarios.

212. While using historical scenarios, managers should vary the time windows in order to process as many scenarios as possible and avoid getting stress test results that depend overly on an arbitrary time window (e.g. one period with low interest rates and another with higher rates).

213. By way of example, here are some commonly used scenarios: junk bonds in 2001, subprime mortgages in 2007, the Greek crisis in 2009 and the Chinese stock market crash in 2015. These scenarios may include independent or correlated shocks depending on the model.

214. One alternative approach to historical scenarios are hypothetical scenarios. Hypothetical scenarios are aimed at anticipating a crisis by setting its parameters. These scenarios, often also partly based on historical scenarios, should be relatively realistic and are sometimes formulated with the help of portfolio managers of the MMF, whose expertise is complementary to the purely statistical approach.

215. Examples of hypothetical scenarios include those hypothetical scenarios based on economic shocks, particularly risk by country or business segment (e.g. bankruptcy of a sovereign state or crash in an industrial sector). This type of scenario may require the creation of a dashboard of all changed risk factors, a correlation matrix and a choice of financial behaviour model. It also includes probabilistic scenarios based on implied volatility.

216. It is also to be noted that such scenarios may be single-factor or multi-factor scenarios. Factors can be uncorrelated (fixed income, equity, counterparty, forex, volatility, correlation, etc.) or correlated: a particular shock may spread to all risk factors, depending on the correlation table used.

Aggregation of stress tests

217. In certain circumstances, managers could use aggregate stress test scenarios on a range of MMFs or even on all the MMFs managed by the managers. Aggregating results would provide an overview and could show, for example, the total volume of assets held by all the MMFs of the manager in a particular position, and the potential impact of several portfolios selling out of said position at the same time during a liquidity crisis.

218. Stress tests performed by individual funds can indeed have a tendency to underestimate the impact of redemptions on underlying market liquidity when many funds attempt to reduce their exposures simultaneously. An example of this would be when the manager of a MMF purchases securities through block trading agreements while owning many funds that are active in a given market. In that case, a stress test at the level of the fund will provide a biased result because its underlying assumption will be that participants involved in the market will provide the same liquidity for each fund. It is likely that in case of a liquidity crisis, all funds managed will face orders of redemptions and the need for liquidity will be much bigger, especially for a small underlying market. In other words, fund level stress tests do not incorporate fully the negative externality on market liquidity that arises from a phenomenon such as flight to quality. Therefore, pro-cyclical selling activities on the same security made by funds owned by the same manager may not be taken into account without an appropriate aggregated stress testing. Those stress tests will therefore be especially relevant for asset managers with a large volume of assets under management and a sizeable footprint on specific financial assets.

Reverse stress testing

219. ESMA is of the view that in the context of the stress test scenarios discussed in this section, the inclusion of reverse stress testing may also be of benefit. The intention behind a reverse stress test is that the MMF would be subjected to stress testing scenarios to the point of failure. This would allow the manager of a MMF to explore fully any vulnerabilities, pre-empt, and resolve such risks. It is also noted that both IOSCO and the ESRB in their recommendations set out that reverse stress testing should be undertaken, and it can play a role in the effectiveness of recovery actions and planning.

Criteria to be taken into account in the stress testing procedure mentioned in Article 28 of the MMF Regulation

220. As opposed to the definition of the stress testing procedure itself, the criteria to be taken into account in the stress testing procedure mentioned in Article 28 of the MMF Regulation are explicitly listed in the paragraph 1 of that article (please see above). The list of criteria included in Art 28(1) is detailed but is not meant to be exhaustive[50].

221. As mentioned above, some of these criteria seem to be inspired by the criteria set out in the U.S. MMF reform recently put in place by the SEC. One difference is that the U.S.

[50] Art 25(1) reads as follows: "The stress test scenarios shall at least take into consideration reference parameters that include the following factors:"

MMF reform makes it clear that the criteria to be taken into account shall be used "*in combination with various levels of an increase in shareholder redemptions*" while Article 28 of the MMF Regulation includes the "*hypothetical levels of redemption*" as a separate factor.

222. ESMA is of the view that different options could be considered:

a. A very high level principle-based approach that would not specify any quantitative criteria nor threshold (in relation to all factors listed in Article 28(1) of the MMF Regulation);
b. A very prescriptive approach that specify quantitative (or detailed) criteria or thresholds for all factors listed in Article 28(1) of the MMF Regulation;
c. An intermediate approach that would intend to specify quantitative (or detailed) criteria or thresholds for some of the factors listed in Article 28(1) of the MMF Regulation (e.g. changes in the level of liquidity of the assets, movements of the interest rates and exchange rates, levels of redemption) and take a more principle-based approach for other factors.

223. Given that the appropriate level of prescriptiveness depends on the factors to be considered, ESMA's preference is for option c) above.

224. It is also to be noted that these Guidelines will be updated at least every year taking into account the latest market developments, as requested in Article 28 of the MMF Regulation. While updating these Guidelines, ESMA will consider whether to amend the level of granularity of the requirements on the different risk factors, and the level of complexity of the overall approach[51].

225. With respect to approach c) above, ESMA is of the view that a more detailed proposal could be presented as follows:

a. With respect to the level of changes of liquidity of the assets mentioned in Article 28(1)(a) of the MMF Regulation, ESMA is of the view that managers could consider such parameters as the gap between the bid and ask spread, trading volumes or the number of counterparties in the market. This would reflect the fact that lack of liquidity of assets may result from secondary markets related issues, but may also be related to the maturity of the asset. If managers would consider the gap between the bid and ask spread, this should be multiplied by a factor, which could be, by way of an example, of 4 or 5[52]. The manager could also consider a stress test scenario that would reflect an extreme event of liquidity shortfall due to dramatic redemptions that would combine liquidity stress test with a bid ask spread multiplied by 3 while having a redemption rate of 20% of the NAV.

[51] ESMA could for example consider later whether to adopt an approach on stress tests of investment funds that would be inspired by the approach already taken by EIOPA or EBA on stress test exercises.

[52] Alternatively, ESMA is of the view that managers could consider the loss incurred following an increase in the bid-ask spread (multiplied by 3 or 4).

b. With respect to the levels of changes of credit risk of the assets mentioned in Article 28(1)(b) of the MMF Regulation, one could consider the downgrade or default of particular portfolio security positions, each representing various exposures in a fund's portfolio – for that purpose, it could be assumed that the counterparty comprises either 2% of the commercial paper held in the portfolio, or 5%. One could also consider the default of the biggest position of the portfolio combined with a downgrade of the ratings of assets within the portfolio. Managers could also consider parallels shifts of the credit spreads of a certain amount of all assets within the portfolio (e.g. 3 selected amounts, 25, 150 and 200 bps). With respect to such stress tests involving the levels of changes of credit risk of the asset, ESMA is of the view that it would also be relevant to consider the impact of such stress tests on the credit quality assessment of the corresponding asset in the context of the methodology described in Article 19 of the MMF Regulation. The manager could also consider a stress test scenario that would reflect an extreme event of stress due to uncertainty on the solvency of market participants, which would lead to increased risk premium and flight to quality. This stress test scenario would combine Default of 2 to 5% of the portfolio[53] while having spreads going up by 150bp[54] with a redemption rate of 20% of the NAV. The manager could also consider a stress test scenario that would combine a default of 2 to 5%[55] of the value of the portfolio combined with an increase of short term interest rate of 50bp with a redemption rate of 20% of the NAV.

c. With respect to the levels of change of the interest rates and exchange rates mentioned in Article 28(1)(c) of the MMF Regulation one could consider stress tests of parallel shifts of a certain amount (e.g. 150 to 200bps) in increments of 25 bps (bps or 3 selected amounts, e.g. 25, 150 and 200 bps). One could also consider:
    i. an increase in the level of short term interest rates with 1-month and 3-month treasury rates going up simultaneously by 50 basis points while assuming a redemption rate that could range between 10% to 30% (as referred to in the SEC MMF reform published in 2014);
    ii. An increase of the long term interest rates for sovereign bonds by 100bp increasing gradually to 250bp[56] (as referred to in the work done by the ESRB);

[53] Given by SEC (2014)
[54] Given by ESRB
[55] Given by SEC (2014)
[56] Between 2014 and 2016, the bond yield shocks ranged from 82 basis points in Germany to around 230 basis points in Greece. On average for the EU and the euro area, the shock is about 150 basis points over 2014 and around 110 basis points in 2015-16.

MMF need to be able to sustain shocks that occur on the interest rate curve both on short/medium/long term. The rates being correlated, it is relevant to test the resistance of the fund on different scenarios of interest rate (being short or long term) increases. Moreover, recent events such as public debt crisis in Europe have shown the need for a MMF to be able to sustain those massive interest shocks. It is therefore relevant for an MMF to know if in the context of public debt crises the MMF is vulnerable and if long term interest rate may affect the pricing of its short term fixed income assets.

iii. A shift in the interest rate curve that would change both short/medium/long interest rate.
iv. Increase of the FX rate (base currency vs other currencies) of 30%
v. The manager could also consider a stress test scenario that would reflect an extreme event of increased interest rate that would combine an increase of the short-term interest rates by 30bp while having a redemption rate that could range between 10-30%[57];
vi. The manager could also consider a matrix of interest rates / credit spreads (25 bps / 100 bps / 150 bps in each case).

d. With respect to the levels of redemption mentioned in Article 28(1)(d) of the MMF Regulation, one could consider the asset decrease (10, 15, 20 or more?) associated with the 5 largest net redemptions. One could also consider a redemption stress test with the redemption being the maximum between 20% of the NAV and an opt-out option exercised by the five most important investors. Stress tests on redemption should include specific fund's rules on liquidity (gates, redemption notice…). Please also see below for more precise recommendations on this factor;

e. With respect to levels of widening or narrowing of spreads among indexes to which interest rates of portfolio securities are tied, as mentioned in Article 28(1)(e) of the MMF Regulation, one could consider the widening of spreads in various sectors to which the fund's portfolio is exposed, each in combination with various increases in shareholder redemptions. The previous MMF regulation in the US required a credit spreads increase by 1.5% (as referred to in the SEC MMF reform in 2014);

f. With respect to the identification of macro-systemic shocks affecting the economy as a whole mentioned in Article 25(1)(f)), ESMA sees merit in not being too prescriptive because the choice of the macro-systemic shock will very much depend on the latest developments in the market and the Guidelines would run the risk of being outdated very quickly. However, one could use an adverse scenario on the GDP (ESRB gave -1% GDP during 3 years). One could also replicate macro-systemic shocks such as the Lehman Brothers bankruptcy event. The manager could also consider a global stress test scenario that could be designed in two ways: i. the Lehman Brothers' event with the calibration of all relevant factors one month ahead of the failure of this firm; ii. PRA's calibration of global stress test (as referred to in the PRA calibration[58]). The manager could also consider the two following scenarios A and B: A) a scenario including a combination of the 3

It also make sense to run stress tests on long term interest rate because this would affect deeply long term public debt bonds that can be acquired through reverse repo agreements. The long-term interest rate may affect both the liquidity and the value of the assets held through a reverse repo agreement.

[57] as specified in the multivariate stress test referred to in SEC MMF reform in 2014.

[58] http://www.bankofengland.co.uk/financialstability/Documents/stresstesting/2016/tradedrisk2016.xlsx

following factors: i) a parallel shift in interest rate (x) ii) a shift in credit spreads (y) and iii) a redemption stress (z)) B) a scenario including a combination of the 3 following factors: i) a parallel shift in interest rate (x) ii) a shift in credit spreads (y) and iii) a redemption stress (z)) Variables x, y and z being the worst figures/shifts experienced by the fund, on an independent basis, for the last 12 months.

226. ESMA is of the view that all factors should be tested against several levels of redemption (this is not to exclude looking at the factors separately, without combining them with tests against levels of redemption, in order to be able to identify the corresponding respective impacts). In that context, some hypothesis on the behaviour of the manager could be required (e.g. use in the liquidation process all the liquid assets first as opposed to adopting a “vertical slice” approach).

227. More generally, ESMA is also of the view that managers should in any case assess the risk factors to which the MMF is exposed and build a number of scenarios, with different level of severity, which would combine all the relevant factors (which is to say that there should not be only separate stress tests for each factor).

Questions

Q18. Do you have views on the specifications of the following criteria:

- **level of changes of liquidity of the assets with respect to Article 28(1)(a),**
- **levels of changes of credit risk of the asset with respect to Article 28(1)(b),**
- **levels of change of the interest rates and exchange rates with respect to Article 28(1)(c),**
- **levels of redemption with respect to Article 28(1)(d),**
- **levels of widening or narrowing of spreads among indexes to which interest rates of portfolio securities are tied with respect to Article 28(1)(e),**
- **identification of macro-systemic shocks affecting the economy as a whole with respect to Article 28(1)(f))? (how would set the calibration of the relevant factors in the case of the Lehman Brothers’ event and the two proposed scenarios A and B? With respect to scenario B mentioned above, do you think the duration of 12 months is appropriate?)**

Q19. Are you of the view that ESMA should specify other criteria that should be taken into account? If yes, which ones?

Redemptions and stress tests

228. The simulation of redemptions should be calibrated based on stability analysis of the liabilities, which itself depends on the type of investor (institutional, retail, private bank, etc.) and the concentration of the liabilities. ESMA is therefore of the view that understanding and analysing the fund's liabilities is critical to understanding the risks faced by the MMF.

229. The particular characteristics of the liabilities and any cyclical changes to redemptions need to be taken into account when establishing redemption scenarios. However, there are many ways to stress liabilities and redemptions. Examples of significant redemption scenarios include i) redemptions of a percentage of the liabilities (typically between 20% and 50%) ii) redemptions equal to the largest redemptions ever seen iii) redemptions based on an investor behaviour model.

230. Redemptions of a percentage of the liabilities (typically between 20% and 50%) could be defined based on the frequency of calculating the net asset value, any redemption notice period and the type of investors.

231. It is to be noted that liquidating positions without distorting portfolio allocation requires a technique known as slicing, whereby the same percentage of each asset type (or each liquidity class if the assets are categorised according to their liquidity, also known as *bucketing*) is sold, rather than selling the most liquid assets first. This is to be taken into account when processing such stress tests.

232. In the case of redemption of units by the largest investor(s), rather than defining an arbitrary redemption percentage like in the previous case, managers could use information about the investor base of the MMF to refine the stress test. Specifically, the scenario involving redemption of units by the largest investors should be calibrated based on the concentration of the fund's liabilities and the relationships between the manager and the primary investors of the MMF (and the extent to which investors are deemed volatile).

233. Managers could also stress test scenarios involving redemptions equal to the largest redemptions ever seen in a group of similar (geographically or in terms of fund type) MMFs or across all the funds managed by the manager. However, the largest redemptions witnessed in the past are not necessarily a reliable indicator of the worst redemptions that may occur in the future.

234. Redemptions based on an investor behaviour model, in accordance with the breakdown of liabilities by investor category, imply the simulation of the behaviour of

each type of investor and establishes a simulation based on the composition of the liabilities of the MMF.

Example of investor classification and simulation of their behaviour (the figures shown are not real): Investor type	Record redemptions for this investor type		
	Over one day	Over one week	Over one month
Large institutional	25%	75%	100%
Group entity (bank, insurance, own account)	20%	40%	40%
Investment fund	20%	65%	100%
Small institutional	10%	25%	40%
Private banking network	15%	40%	75%
Retail investor with distributor A	5%	10%	20%
Retail investor with distributor B	7%	15%	20%

	Stressed redemptions for this investor category
Large institutional	75%
Group entity (bank, insurance, own account)	0% (in agreement with the AMC)
Investment fund	65%
Small institutional	25%
Private banking network	40%
Retail investor with distributor A	10%
Retail investor with distributor B	15%

235. In order to build such a simulation, the manager needs to make assumptions about the behaviour of each investor type, based in part on historical redemptions. In the example above, the fund manager has noted that the retail investors who invested through distributor A are historically slower to exit in the event of difficulty, but that they exhibit the same behaviour over one month as retail investors who invested through distributor B. This fictitious example shows a possible classification that the manager

may use based on the data available on the liabilities of the MMF and the behaviour of its investors.

236. It is to be noted that the ownership limits applicable to institutional investors may raise a specific issue of snowballing redemptions in certain funds with insufficiently diversified liabilities. If several investors are invested up to their ownership limit, the exit of one investor may indeed cause others to reach their ownership limit and be obliged to redeem their units. ESMA is of the view that the precise understanding of this type of constraint could improve the modelling of the liability process.

Other aspects of the future ESMA guidelines on the stress testing procedures of MMFs

237. The text of the proposed guidelines is included in Annex 7.IV of this consultation paper.

238. With respect to the requirements on possible univariate or multivariate stress tests included in the proposed Guidelines, ESMA was of the view that at the consultation stage, it is appropriate to suggest several options so that stakeholders can as clearly as possible indicate their preferences. This does not mean that these options would remain in the final version of the Guidelines (it might be the case that only one or several of these options would remain). In addition, the provisions of the ITS that relate to reporting of stress tests and the Guidelines are to some extent interdependent, so the final approach taken on one may have an impact on the approach taken in the other (e.g. some approaches in the Guidelines that are currently optional may become mandatory).

Questions:

Q20. Are you of the view that other topic should be covered in the ESMA guidelines under the requirements of Article 28 of the MMF Regulation?

Q21. Do you agree with the assessment of costs and benefits mentioned in the CBA (Annex III) on the different options on the Guidelines on stress tests? If not, please explain why and provide any available quantitative data on costs (if any) that the proposal would imply.

While responding to this question stakeholders might use the following table for example:

a. IT costs		**b. Training costs**		**c. Staff costs**	
IT One-off	IT Ongoing	TR One-off	TR Ongoing	ST One-off	ST Ongoing

7 Annexes

7.1 Annex I

Summary of questions

Q1 . Do you agree that the abovementioned references to EU/US standards are relevant in the context of the issuance by ESMA of technical advice on quantitative and qualitative liquidity and credit quality requirements applicable to assets received as part of a reverse repurchase agreement in the context of the MMF Regulation? Do you identify other pieces of national/EU/International law that would be relevant in view of the work on this part of the advice?

Q2 Which of the options described above regarding credit quality and liquidity requirements would you favour?

Q3 With respect to option a), do you think the haircut policy should be determined as suggested, or should there be more flexibility given to the manager on this determination? Do you think that the decision of equivalence vis a vis third countries mentioned in this option should relate to the one mentioned in Article 114 (107 in the case of credit institutions) of CRR?

Q4 With respect to option b) on liquidity requirements, do you think that requiring assets convertible to cash in one business day or less is appropriate? Do you think this requirement should be more detailed and refer to trade date or settlement date, for example? With respect to that same option b), how do you think that the criteria mentioned in this option could be defined in more detail, and how could quantitative indicators be introduced? Do you think all the criteria mentioned in Article 2(3) of this option b) are relevant? Under this option, when the liquidity assessment of the manager is that the assets would no longer be *liquid assets*, the manager shall take immediately any appropriate action including the replacement of the collateral with another asset that would be qualified as *liquid assets.* Do you think that the replacement of the collateral could be carried out overnight?

Q5 What would be in your view the consequences in terms of costs of the chosen option, and of the other options mentioned above? Do you agree with reasoning mention in the CBA (annex III) in relation to the possible costs and benefits of the options as regards the abovementioned credit quality and liquidity requirements? Which other costs or benefits would you consider in this context?

Q6 Do you agree that the abovementioned references to EU and US standards are relevant in the context of the issuance by ESMA of technical advice on credit quality assessment under the requirements of the MMF Regulation? Do you identify other pieces of national/EU/International law that would be relevant in

view of the work on ESMA technical advice on credit quality assessment under the requirements of the MMF Regulation?

Q7 Do you agree with the proposed option on each of the requirements mentioned in Article 22 of the MMF Regulation? If not, could you specify which existing regulatory framework would you suggest as a basis for the work on the technical advice related to Article 22 of the MMF Regulation?

Q8 In your view, what would be the consequences (including operational ones) of the level of detail and prescription suggested above in the proposed technical advice on credit quality assessment under the MMF Regulation (which would be broadly similar as in the delegated Regulation on the assessment of compliance of credit rating methodologies (447/2012), and in the technical advice on reducing sole and mechanistic reliance on external credit ratings (2015/1471))?

Q9 What would be in your view the consequences in terms of costs of the chosen options described above in relation to the requirements included in the technical advice under Article 22 of the MMF Regulation? Do you agree with the assessment of costs and benefits mentioned in the CBA (annex III) on the technical advice under Article 22 of the MMF Regulation? If not, please explain why and provide any available quantitative data that the proposal would imply.

Q10 Do you think other type of information should be considered as "characteristics" of the MMF?

Q11 Do you agree with the proposed way of reporting the yield of the MMF? If not, could you indicate what would be the more appropriate way to report yield in your views? Do you think the 7-days gross yield should be reported for each week of the reporting period? If not, what should be the appropriate frequency of reporting on this item?[59] Do you think that the calendar year performance and yield could be calculated at (sub)fund level and at share class level? Which difficulties do you identify while doing so? At which frequency should it be reported?

Q12 Which type of measure would you suggest using to report the quantified outcome of the credit assessment procedure?

Q13 With respect to reverse repurchase agreement, do you agree that the information requested is appropriate? With respect to repurchase agreements, do you think the value of cash received should be reported as a breakdown per investment purposes, i.e. liquidity management or investment in assets referred to in Article 15(6)? (given the information on the amount of cash received as part of repurchase agreements that is also requested). What should be the

[59] in order in particular to build meaningful time series to be used for understanding the activity of a fund and for analysis purposes.

appropriate frequency of reporting on this information? Do you think the value of unencumbered cash should be reported as a breakdown per country where the bank account is located and currency? (given the information on deposits that is also requested)

Q14 Do you think the information on the investor 'lock-up' period in days (report asset weighted notice period if multiple classes or shares or units) is relevant in the case of MMFs (this information is included in the AIFMD reporting template)?)? Do you agree with the proposed way to report stress tests?

Q15 Do you identify other type of information that should be included in the requested information in the reported template? What would be in your view the consequences in terms of costs of the proposed options for the reporting template? Do you agree with the assessment of costs and benefits above for the proposal mentioned in the CBA (Annex III) on the reporting template? If not, please explain why and provide any available quantitative data on the one-off and ongoing costs (if any) that the proposal would imply. Do you have specific views on the potential use of the ISO 20022 standard?

Q16 Do you agree that the abovementioned references to EU/international standards are relevant in the context of the issuance by ESMA of guidelines on stress testing of MMFs? Do you identify other pieces of EU/International law that would be relevant in view of the work on ESMA guidelines on stress testing of MMFs?

Q17 Do you have specific views on the interpretation of the requirements of Article 25(1) of the MMF Regulation on the meaning of the abovementioned "effects on the MMF"?

Q18 Do you have views on the specifications of the following criteria:

- level of changes of liquidity of the assets with respect to Article 28(1)(a),

- levels of changes of credit risk of the asset with respect to Article 28(1)(b),

- levels of change of the interest rates and exchange rates with respect to Article 28(1)(c),

- levels of redemption with respect to Article 28(1)(d),

- levels of widening or narrowing of spreads among indexes to which interest rates of portfolio securities are tied with respect to Article 28(1)(e),

- identification of macro-systemic shocks affecting the economy as a whole with respect to Article 28(1)(f))? (how would set the calibration of the relevant factors in the case of

the Lehman Brothers' event, and the two proposed scenarios A and B? With respect to scenario B mentioned above, do you think the duration of 12 months is appropriate?)

Q19 Are you of the view that ESMA should specify other criteria that should be taken into account? If yes, which ones?

Q20 Are you of the view that other topic should be covered in the ESMA guidelines under the requirements of Article 28 of the MMF Regulation?

Q21 Do you agree with the assessment of costs and benefits mentioned in the CBA (Annex III) on the different options on the Guidelines on stress tests? If not, please explain why and provide any available quantitative data on costs (if any) that the proposal would imply.

7.2 **Annex II**

Legislative mandate to develop technical standards

Under the requirements of Article 37(4) of the MMF Regulation ESMA is required to develop draft ITS to establish a reporting template.

- Article 37 of the MMF regulation provides that:

  Reporting to competent authorities

1. For each MMF that it manages, the manager of the MMF shall report information to the competent authority of the MMF on at least a quarterly basis.
By way of derogation from the first subparagraph, for an MMF whose assets under management in total do not exceed EUR 100 000 000, the manager of the MMF shall report to the competent authority of the MMF on at least an annual basis.
The manager of an MMF shall upon request provide the information reported pursuant to the first and second subparagraphs also to the competent authority of the manager of an MMF, if different from the competent authority of the MMF.

2. The information reported pursuant to paragraph 1 shall comprise the following points:

(a) the type and characteristics of the MMF;
(b) portfolio indicators such as the total value of assets, NAV, WAM, WAL, maturity breakdown, liquidity and yield;
(c) the results of stress tests and, where applicable, the proposed action plan;
(d) information on the assets held in the portfolio of the MMF, including:

(i) the characteristics of each asset, such as name, country, issuer category, risk or maturity, and the outcome of the internal credit quality assessment procedure
(ii) the type of asset, including details of the counterparty in the case of derivatives, repurchase agreements or reverse repurchase agreements;

(e) information on the liabilities of the MMF, including:
(i) the country where the investor is established;
(ii) the investor category;
(iii) subscription and redemption activity.
If necessary and duly justified, competent authorities may solicit additional information.

3. In addition to the information referred to in paragraph 2, for each LVNAV MMF that it manages, the manager of an MMF shall report the following:

(a) every event in which the price of an asset valued by using the amortised cost method in accordance with the first subparagraph of Article 29(7) deviates from the price of that asset calculated in accordance with Article 29(2), (3) and (4) by more than 10 basis points;
(b) every event in which the constant NAV per unit or share calculated in accordance with Article 32(1) and (2) deviates from the NAV per unit or share calculated in accordance with Article 30 by more than 20 basis points;
(c) every event in which a situation mentioned in Article 34(3) occurs and the measures taken by the board in accordance with points (a) and (b) of Article 34(1).

4. ESMA shall develop draft implementing technical standards to establish a reporting template that shall contain all the information referred to in paragraphs 2 and 3.
ESMA shall submit those draft implementing technical standards to the Commission by ...[six months after the date of entry into force of this Regulation].
Power is conferred on the Commission to adopt the implementing technical standards referred to in the first subparagraph in accordance with Article 15 of Regulation (EU) No 1095/2010.

5. Competent authorities shall transmit to ESMA all information received pursuant to this Articl. Such information shall be transmitted to ESMA no later than 30 days after the end of the reporting quarter.
ESMA shall collect the information to create a central database of all MMFs established, managed or marketed in the Union. The European Central Bank shall have a right of access to that database, for statistical purposes only.

Mandate from the European Commission to develop technical advice (letter from the Commission dated 20 January 2017)

The letter from the European Commission dated 2017 reads as follows:

Subject: Provisional request to ESMA for technical advice on delegated and

implementing acts as required by the Regulation on Money Market Funds

Dear Mr. Maijoor,

The Commission services would like to request the advice of ESMA on the preparation of the delegated acts to be adopted by the Commission pursuant to the soon-to-be-adopted Regulation on Money Market Funds (MMFs).

The MMF Regulation introduces a fully harmonised framework for MMFs, which aims to preserve the integrity and stability of the Union's financial market whilst delivering a high level of transparency and investor protection. ESMA is invited to take these overarching objectives into account when providing its technical advice to the Commission.

The request for technical advice relates to the delegations provided for in Articles 13 and 19 of the MMF Regulation, which require the MMF Regulation to be supplemented by further specifying:

• quantitative and qualitative liquidity requirements applicable to assets referred to in

Article 13(5) and quantitative and qualitative credit quality requirements applicable to

assets referred to in Article 13(5(a));

• the criteria for the validation of the credit quality assessment methodology referred to in Article 16(2);

• the criteria for quantification of the credit risk and the relative risk of default of an

issuer and of the instrument, referred to in Article 17(2)(a);

• the criteria to establish qualitative indicators on the issuer of the instrument as referred to in Article 17(2)(b); and

• the meaning of material change as referred to in Article 16(3)(ca).

With respect to the delegation referred to in Article 13, ESMA is invited to advise the Commission on the criteria and characteristics of the assets referred to in Article 13(5) that ensure that the liquidity profile of the MMF is not endangered in case it is forced to liquidate those assets following the default of a counterparty.

Similarly, when advising the Commission on the details of the credit quality assessment referred to Article 19, ESMA is invited to take account of the negative consequences that the default of an issuer of a security held by the MMF may not only have for the MMF itself but also for financial markets as a whole.

The present request for advice is based on the text of the Regulation as confirmed by the Council's Permanent Representatives Committee and the European Parliament's Economic and Monetary Affairs Committee (ECON). It is still subject to a full plenary vote in the European Parliament, which is expected to take place in March 2017. The Commission services do not however expect further changes in substance notwithstanding the process of legal revision may result in drafting amendments and, as the case may be, the renumbering of legal provisions. The Commission services will keep ESMA fully informed of any such developments.

It is the Commission's established practice to adopt delegated acts well before the date of application of a Regulation. Taking into account that the MMF Regulation will apply from 12 months after its entry into force, the Commission services request ESMA to deliver its advice by 31 July 2017.

In accordance with the principles of Better Regulation, the Commission, in preparing its delegated acts, is required to prepare a detailed impact assessment. The Commission would therefore invite ESMA to underpin its advice by first identifying a range of policy options and then undertake an assessment of the costs and benefits of each option. The results of this assessment should be submitted alongside the advice.

The technical advice provided by ESMA to the Commission should not take the form of a legal text. However, ESMA should provide the Commission with a structured text accompanied by detailed explanations for the advice given.

The services of the Commission will, after transmission to ESMA, publish this provisional request for advice and any updated versions on the website of the DG for Financial Stability, Financial Services and Capital Markets Union.

7.3 Annex III

Cost-benefit analysis

1. Introduction

239. The MMF Regulation sets out a comprehensive framework for the regulation of MMFs within Europe. MMFs are AIFs or UCITS that are managed by alternative investment fund managers (AIFMs) or UCITs management companies or investment companies

240. The MMF Regulation establishes uniform rules regarding MMFs. Together with the aforementioned letter from the European Commission dated 20 January 2017, It mandates ESMA to develop technical advice, ITS and guidelines on a certain number of aspects of the Regulation, described above in sections II to VII of this consultation paper.

241. This consultation paper sets out proposals for this technical advice on reverse repurchase agreement and credit quality assessment, ITS on the establishment of a reporting template and guidelines on stress testing.

242. This draft CBA is qualitative in nature. However, ad hoc questions have been introduced in the text below in order to elicit market participants' input on the quantitative impact of the proposals. Should relevant data be received through the consultation process, ESMA will take it into account when finalising its technical advice, ITS and guidelines and will include it in the CBA accompanying the final report.

243. For the purpose of this CBA and consultation paper, ESMA collected information on the market of MMF from national competent authorities. This information is presented in the end of this section on the CBA.

2. Technical options

244. The following options were identified and analysed by ESMA to address the policy objectives of each of the technical advice, ITS and guidelines required under the MMF Regulation.

245. In identifying the options set out below and choosing the preferred ones, ESMA was guided by the relevant MMF Regulation rules.

2.1. Technical advice under Article 15 of the MMF Regulation (reverse repurchase agreement)

Policy Objective	According to **Article 15** of the MMF Regulation, a reverse repurchase agreement will be eligible to be entered into by a MMF provided that the following conditions are fulfilled: a) the MMF has the right to terminate the agreement at any time upon a notice of maximum two working days; b) the market value of

	the assets received as part of the reverse repurchase agreement is at all times at least equal to the value of the cash given out. **Article 15(6)** of the Regulation stipulates that the assets received by the MMF as part of a reverse repurchase agreement must be money market instruments eligible for investment by a MMF (excepted securitisation and ABCP). By way of derogation from this requirement, a MMF may receive as part of a reverse repurchase agreement liquid transferable securities or money market instruments other than money market instruments eligible for investment by a MMF provided that those assets comply with one of the following conditions: a. They are issued or guaranteed by the Union, a central authority or central bank of a Member State, the European Central Bank, the European Investment Bank, the European Stability Mechanism or the European Financial Stability Facility provided that a favourable assessment has been received pursuant to **Articles 19 to 22**; b. they are issued or guaranteed by a central authority or central bank of a third country, provided that a favourable assessment has been received pursuant to Articles **19 to 22.** Under the requirements of **Article** 15(7**),** the Commission is empowered to adopt delegated acts specifying liquidity requirements (both quantitative and qualitative) applicable to assets referred to below and specifying credit quality requirements (both quantitative and qualitative) applicable to assets referred to below in (a**).**
Baseline scenario	The baseline scenario should be understood for this CBA as the application of the requirements in the Level 1 Regulation (i.e. the provisions of Article 15 of the MMF Regulation) without any further specification. This would leave discretion to managers of MMF to determine the abovementioned quantitative and qualitative credit quality and liquidity criteria. This could clearly lead to a lack of harmonisation in the application of the provisions of the MMF Regulation across the MMF industry on a potentially sensitive issue. Indeed, uncertainty on the abovementioned requirement could lead to a situation where some Member States would adopt

	stricter rules than others on the choice of the abovementioned quantitative and qualitative credit quality and liquidity criteria, leading to greater uncertainty for investors of MMFs in the different Member States. For instance, some Member States could consider that only specific types of assets might be eligible for that purpose. This would be particularly problematic in the context of the EU passport of the AIFMD/UCITS Directive.
Options	With respect to credit quality requirements, the option that is suggested would be to consider that the MMF Regulation, which does not refer anymore to “high credit quality ” requirements but only to a “favourable assessment” (in the context of the credit quality assessment described in Articles 19 to 22 of the MMF Regulation) implies that there should not be any further requirements to be specified by ESMA in the specific context of the Article 15 of the MMF Regulation. The criteria that would be taken into account in the credit quality assessment methodology (and that would therefore trigger the abovementioned “favourable assessment”) would be specified in the technical advice under Article 22 of the MMF Regulation. With respect to liquidity requirements, the two options that are suggested could include: **Option 1:** This option is based on an approach whereby liquidity requirements applying to the collateral depend on the risk of default of the counterparties to the reverse repurchase agreement and the applicable counterparty risk diversification limit[60]. i. If the counterparty to the reverse repurchase agreement is a European credit institution or European investment firm or any such entity subject to equivalent European prudential regulation[61], ensuring appropriate matching of assets and liabilities, additional liquidity or credit quality requirements with respect to the assets mentioned in Article 15(6) of the MMF Regulation shall be deemed to be met, as under such a situation, the risk of a MMF to be

[60] each single counterparty to a MMF may account for maximum 15% of the assets of the MMF

[61] one could use the wording of the PRIIPs Regulatory technical standards on the same topic (Annex 2, Part 2, Section 2 Credit Assessment, §43(a) p.43), which reads as follows:“*If the counterparty to the reverse repurchase agreement is regulated as a credit institution or an investment firm under the applicable Union law or regulation deemed equivalent under the Union law*”

	forced to liquidate the collateral is deemed contained; ii. If this is not the case to ensure sufficient overcollateralization of the reverse repurchase agreement as mentioned in Article 15(1)(b) of the MMF regulation, the following qualitative and quantitative liquidity factors shall be considered with respect to the assets mentioned in Article 15(6) of the MMF Regulation: i) time to maturity of the assets, ii) price volatility of the assets and iii) appropriate stress-testing policy, as per Article 28 of the MMF Regulation, run on a regular basis and carried out under normal and exceptional liquidity conditions to enable a relevant assessment of the liquidity risk attached to the assets composing the collateral. Depending on the above-mentioned liquidity factors, corresponding haircut on the assets composing collateral shall apply, in order to mitigate the risk of loss and offer a gap risk protection, when selling such collateral following the default of the counterparty on a very short time period. Consequently, the MMF may continue complying (i) with its investment objective of preservation of capital and/or return aligned with the money market rate in addition to with (ii) its obligations on the liability side of the portfolio. Such haircut policy should be based on existing standardized haircut, such as those established by the Basel Committee on Banking Supervision (BCBS) (http://www.bis.org/bcbs/publ/d317.pdf, appendix B). **Option 2:** This option is based on the determination of the liquidity profile of the asset composing the collateral based on the following qualitative and quantitative liquidity requirements: i) reasonable expectations of the conversion to cash in one business day with a marginal impact on the market value of the investment, ii) which shall be monitored on a continuous basis and iii) under both normal and exceptional liquidity conditions in accordance with stress-tests run in accordance with Article 28 of

	the MMF Regulation, and taking into consideration various criteria[62]. In the case where the manager of a MMF considers that one or several assets composing the collateral do not comply with a liquid profile, such assets shall either be replaced with liquid assets overnight or the reverse repurchase transaction(s) shall be terminated with a one business day notice);
Preferred Option	While ESMA is of the view that the preferred option with respect to credit quality criteria is the option described above, ESMA decided to consult on the two-abovementioned options on the liquidity criteria because at this stage ESMA has no preferred option between these two options and would like to gather the views of stakeholders on this point. ESMA discarded other options regarding the credit quality and liquidity criteria, as well as the baseline scenario (application of the requirements in the Level 1 Regulation without any further specification).

2.2. Technical advice under Article 22 of the MMF Regulation (credit quality assessment)

Policy Objective	The MMF Regulation indicates that the manager of a MMF must establish, implement and consistently apply a prudent internal credit quality assessment procedure for determining the credit quality of money market instruments, securitisations and asset-backed commercial paper (**ABCP) taking into account the issuer of the instrument and the characteristics of the instrument itself.** **Delegated acts are aimed to specify both the criteria for the validation of the credit quality assessment methodology (and the meaning of "material change" in that context) and the criteria for quantification of the credit risk and the relative risk of default of an issuer and of the instrument in which the MMF invests (together with**

[62] Including:- the bid-ask spreads; - the size of the issue; - the frequency of trades or quotes: - the average daily trading volume;- the size of the collateral position of the MMF relative to the average daily trading volume and the size of the issue;- the issuance date and residual maturity;- the existence of an active market for the asset and the number, diversity, and quality of market participants, including the extent to which they commit to bring liquidity to the market or the daily trading volume;- the number of multilateral trading facilities where the asset is referenced;- the volatility of trading prices for the asset;- the credit quality of the issuer.

the critria to establish qualitative indicators on the issuer of the instrument).

Credit quality assessment methodology

Under **Article 19 of** the MMF Regulation, the manager of a MMF must establish, implement and consistently apply a prudent internal credit quality assessment procedure for determining the credit quality of money market instruments, securitisations and asset-backed commercial paper (ABCP) taking into account the issuer of the instrument and the characteristics of the instrument itsel**f.**

The internal assessment procedure has to be based on prudent, systematic and continuous assessment methodologies. The methodologies used must be subject to validation by the manager of the MMF based on historical experience and empirical evidence, inclu**ding back testing.**

Under **Article 22(a) of** the MMF Regulation, the Commission is obliged to adopt a delegated act specifying the criteria for the validation of these credit quality assessment methodologies.

The manager of a MMF must ensure that this abovementioned internal credit quality assessment procedure complies with the principles mentioned **in Article 19(3),** including the fact **(Art 19(3)(d)) that** "*while there shall be no mechanistic overreliance on external ratings" a manager of a MMF has to undertake a new credit quality assessment for a money market instrument, securitisations and ABCPs when there is a "material change*" that could have an impact on the existing assessment of the instrument.

Under the requirements of **Article 22(d)** of the MMF Regulation, the Commission is obliged to adopt a delegated act specifying the meaning of that "material change".

Criteria for the quantification of the credit risk

Under the requirements **of Article** 20 of the MMF Regulation, a manager of a MMF shall assess whether the credit quality of a money market instrument, securitisation or ABCP in which the MMF invests receives a favourable assessment in accordance with the procedure mentioned above.

	The corresponding internal credit quality assessment has to take into account several factors and general principles mentioned in **Article 20(2)** of the MMF Regulation, including the quantification of the credit risk of the issuer and the relative risk of default of the issuer and of the instrument (**Article 20(2)(a)).** Under the requirements of **Article 22(b)** of the MMF Regulation, the Commission must adopt a delegated act specifying the criteria for such a quantification of the credit risk and such a relative risk of default of the issuer and of the instrument. Article **20(2)(b)** indicates that the corresponding internal credit quality assessment shall also take into account qualitative indicators on the issuer of the instrument, including in the light of the macro-economic and financial market situation. Under the requirements of **Article 22(c)** of the MMF Regulation, the Commission is required to adopt a further delegated act specifying the criteria to establish such qualitative indicators on the issuer of the instrument.
Baseline scenario	The baseline scenario should be understood for this CBA as the application of the requirements in the Level 1 Regulation (i.e. the provisions of Article 19 and 20 of the MMF Regulation) without any further specification. This would leave discretion to managers of MMF to determine the abovementioned criteria for the validation of the credit quality assessment methodologies as well as the quantitative and qualitative criteria for the quantification of the credit risk.This could clearly lead to a lack of harmonisation in the application of the provisions of the MMF Regulation across the MMF industry on a potentially sensitive issue. Indeed, uncertainty on the abovementioned requirement could lead to a situation where some Member States would adopt stricter rules than others on the choice of the abovementioned quantitative and qualitative criteria, leading to greater uncertainty for investors of MMFs in the different Member States. For instance, some Member States could consider that only specific types of criteria might meet the requirements of the MMF Regulation for that purpose. This would be particularly problematic in the context of the EU passport of the AIFMD/UCITS Directive.

Option 1	With respect to the requirements of Article 22(a) (validation of the credit quality assessment methodology), ESMA's work could be based on similar work already done in the context of the delegated Regulation on the assessment of compliance of credit rating methodologies (447/2012) and the related ESMA guidelines on the validation and review of Credit Rating Agencies' methodologies (ESMA/2016/1575). However, the exact contents of these would need to be adapted to the specific case of the MMF Regulation. For example, part of the contents of Article 4 is already included in Article 19 of the MMF Regulation. This would also mean that the requirements included in this technical advice could still be further specified in guidelines at a later stage, as has been the case in the abovementioned context of the Credit Rating Agencies' methodologies; With respect to the requirements of Article 22(b) and 22(c) (criteria for the quantification of the credit risk and the relative risk of default of an issuer and of the instrument / criteria to establish qualitative indicators on the issuer of the instrument), ESMA's work could be based on similar work already done in the context of the ESMA technical advice on reducing sole and mechanistic reliance on external credit ratings (2015/1471) and on similar rules in the US SEC reform (IC-31828). More specifically, this would mean that the contents of the MMF technical advice on this point could mirror the approach described in the sections "Rationale for Good Practice on alternative and complementary measures to credit ratings" and "Rationale for Good Practice on proportionality" of the Joint Committee report on good supervisory practices for mitigating mechanistic reliance on credit ratings (JC 2016-71)[63].. With respect to the requirements of Article 22(d) (meaning of a 'material change' that would lead to a new credit quality assessment), a material change that could have an impact on the existing assessment of the instrument may relate to all the criteria that the manager of the MMF takes into account in its credit quality assessement methodology and which are referred to in the other parts of the technical advice under Article 22 of the MMF Regulation. It should therefore also be defined what should be meant by 'material change' for the relevant abovementioned

[63] https://esas-joint-committee.europa.eu/Publications/Reports/JC%202016%2071%20Final%20Report%20Good%20Supervisory%20Practices%20for%20Reducing%20Mechanistic%20Reliance%20on%20Credit%20Ratings.pdf

	different criteria. In order to define what should be meant by 'material change' for the relevant abovementioned different criteria, one may use the risk factors of the stress test scenarios, including those referred to in Article 28 of the MMF Regulation. Because these risk factors would be specified in the Guidelines on stress tests (as referred to in the section 6 of this consultation paper), these would be updated every year. It is therefore suggested to refer to these risk factors that would be updated very regularly, as opposed to including in the technical advice itself specifications on the definitions of 'material change' for each abovementioned criteria, becaues in this case, these specifications could not easily be changed on a regular basis once published in the corresponding delegated act. In addition ESMA's work may also be partly based on the ESMA Opinion on the review of the CESR guidelines on a Common Definition of European Money Market Funds (2014/1103).
Option 2	In the context of this option, ESMA would specify prescriptive requirements in relation to each of the criteria (with respect to the technical advice under Article 22(a), 22(b), 22(c) and 22(d)) mentioned above in option 1. The main difference with option 1 would therefore be the level of prescriptiveness of the option.
Preferred Option	ESMA decided to consult on option 1 and discarded option 2. The baseline scenario (application of the requirements in the Level 1 Regulation without any further specification) was also discarded, as it would have left discretion to managers of MMFs and NCAs to determine the different abovementioned criteria, which would have led to a lack of harmonisation and potential inconsistencies across Europe in the application of one of the key provisions of the MMF Regulation. ESMA felt that option 2 was sub-optimal as a prescriptive approach might create a systemic risk. If all managers of MMF use the same methodology and are invested in the same assets this might introduce some degree of systemic risk In addition, option 1 would not prevent ESMA specifying in subsequent guidelines any point that would need to be detailed further. This would be in line with the approach taken in the context of the delegated Regulation on the assessment of compliance of credit rating methodologies, and would also allow ESMA to issue its technical advice in the requested timeframe

2.3. ITS on the establishment of a reporting template (Article 37 of the MMF Regulation)

Policy Objective	The MMF Regulation (**Article 37)** obliges, for each MMF managed, the manager of the MMF to report information to the competent authority of the MMF, at least on a quarterly basis. The frequency of reporting is annual in the case of a MMF whose assets under management in total do not exceed EUR 100 million. These reports need to include a number of elements listed in the Regulation, and ESMA is required to develop draft implementing technical standards (ITS) to establish a reporting template that contains the relevant information. ESMA has to submit those draft ITS to the Commission by 6 months after the entry into force of the Regulation. Under the requirements of Article 37(4) of the MMF Regulation ESMA is required to develop draft ITS to establish a reporting template that contains for each MMF the following information: (a) the type and characteristics of the MMF; (b) portfolio indicators such as the total value of assets, NAV, WAM, WAL, maturity breakdown, liquidity and yield; (c) the results of stress tests and where applicable the proposed action plan; (d) information on the assets held in the portfolio of the MMF: (i) the characteristics of each asset, such as name, country, issuer category, risk or maturity, and the outcome of the internal credit assessment procedure; (ii) the type of asset, including details of the counterparty in the case of derivatives, repurchase agreements or reverse repurchase agreements; (e) information on the liabilities of the MMF that includes the following points: (i) the country where the investor is established; (ii) the investor category; (iii) subscription and redemption activity.

	Under the requirements of Article **37(4)** of the MMF Regulation ESMA is also required to develop draft ITS to establish a reporting template that contains for each LVNAV MMF (in addition to the information mentioned in the previous paragraph) the following information: (a) **every event in which the price of an asset valued by using the amortised cost method in accordance with the first subparagraph of Article 29(7) deviates from the price of that asset calculated in accordance with Article 29(2), (3) and (4) by more than 10 basis points**; (b) **every event in which the constant NAV per unit or share calculated in accordance with Article 32(1) and (2) deviates from the NAV per unit or share calculated in accordance with Article 30 by more than 20 basis points**; (c) **every event in which a situation mentioned in Article 34(3) occurs and the measures taken by the board in accordance with points (a) and (b) of Article 34(1).**
Baseline scenario	The baseline scenario should be understood for this CBA as the application of the requirements in the Level 1 Regulation (i.e. the provisions of Article 37 of the MMF Regulation) without any further specification. This would leave discretion to managers of MMF to determine the abovementioned contents and format of the reporting template.This could clearly lead to a significant lack of harmonisation in the application of the provisions of the MMF Regulation across the MMF industry on this issue. Indeed, uncertainty on the abovementioned requirement could lead to a situation where some Member States would adopt stricter rules than others on the choice of the abovementioned contents and format of the reporting template. For instance, some Member States could consider that only specific types of information might be included in the abovementioned reporting template. This would be particularly problematic in the context of the EU passport of the AIFMD/UCITS Directive.
Option 1	The ITS would provide a detailed list of information that should be included in the reporting template. This information is detailed in the draft reporting template included in Annex IV of this consultation paper. This option would not consider the reuse of

	the data submitted in the context of the AIFMD reporting template.
Option 2	The ITS would provide a list of information that should be included in the reporting template. However this option would also consider the reuse of the data submitted in the context of the AIFMD reporting template.
Preferred Option	ESMA decided to consult on option 1 and discarded option 2. The baseline scenario (application of the requirements in the Level 1 Regulation without any further specification) was also discarded. The main difference between options 1 and 2 is the extent to which the reporting template under the MMF Regulation would rely on the existing reporting template under the AIFMD. Having regard to the abovementioned similarities between the AIFMD database and the envisaged MMF one, one of the first key principles underlying the establishment of the required reporting template could indeed be to rely as much as possible on the work already done on the establishment of a reporting template in the case of the AIFMD database. This would mean, in particular, that: i) to the extent that this is possible from a legal standpoint, the same type of information should not be requested and expressed in two different ways in the two contexts of the AIFMD and MMF reporting requirements (e.g. the same types of indicators should be defined the same way); and ii) a situation when the same manager would have to provide the same information both in the AIFMD and in the MMF database should be avoided, to the extent that this is possible from a purely IT/technical point of view. However, there are a number of limitations to this exercise. First, the list of information to be provided by managers explicitly mentioned in the MMF Regulation differs to a large extent from the one included in the AIFMD database. Secondly, in some instances (e.g. the typology of assets) the typology of information, that is, the way the information has to be categorized, also differs as compared to the one included in the AIFMD database. Thirdly, the competent authority that will receive the reports under the MMF framework is the competent authority of the MMF (Article 37(1)) while for the same MMF

	(when this is an AIF) the competent authority that will receive the reports under the AIFMD framework is the competent authority of the AIFM (the manager of the MMF). In addition, the LEI, which could allow ESMA to identify the MMF(AIF) in such a situation, is not a mandatory requirement under the AIFMD reporting framework. Finally, the frequency of reporting may differ for a given MMF between the AIFMD and the MMF reporting requirements. On the one hand, it is therefore suggested to apply as strictly as possible the principle expressed above (the same type of information should not be requested and expressed in two different ways in the AIFMD and MMF reporting requirements), even though it might be in some cases necessary to depart from this principle because of the different nature of the AIFMD and MMF databases. On the other hand, given the limitations described above, it is suggested to depart from the other principle included above, so that the two AIFMD and MMF databases would be dealt with separately ESMA therefore preferred option 1.

2.4. Guidelines on stress testing of MMF (Article 28 of the MMF Regulation)

Policy Objective	The MMF Regulation obliges each MMF to have in place sound stress testing processes that allow the identification of possible events or future changes in economic conditions which could have unfavourable effects on the MMF. The MMF or its manager has to assess the possible impact that those events or changes could have on the MMF. The manager of a MMF must regularly conduct stress testing for different possible scenarios, and those stress tests must be based on objective criteria and consider the effects of severe plausible scenarios. Under the requirements of the **Article 28** of the MMF Regulation ESMA is obliged to issue guidelines with a view to establishing common reference parameters of these stresstest scenarios taking into account a number of factors:

Baseline scenario	The baseline scenario should be understood for this CBA as the application of the requirements in the Level 1 Regulation (i.e. the provisions of Article 28 of the MMF Regulation) without any further specification. This would leave discretion to managers of MMF to determine fully the abovementioned stress test scenarios. This could clearly lead to a significant lack of harmonisation in the application of the provisions of the MMF Regulation across the MMF industry on this issue. Indeed, uncertainty on the abovementioned requirement could lead to a situation where some Member States would adopt stricter rules than others on the choice of the abovementioned stress tests. For instance, some Member States could consider that only specific level/thresholds/reference parameters of certain risk factors might be included in the abovementioned stress tests. This would be particularly problematic in the context of the EU passport of the AIFMD/UCITS Directive.
Option 1	This option is a very high level principle-based approach that would not specify any quantitative criteria nor threshold (in relation to all factors listed in Article 28(1) of the MMF Regulation);
Option 2	This option is a very prescriptive approach that specify quantitative (or detailed) criteria or thresholds for all factors listed in Article 28(1) of the MMF Regulation;
Option 3	This option is an intermediate approach that would intend to specify quantitative (or detailed) criteria or thresholds for some of the factors listed in Article 28(1) of the MMF Regulation (e.g. changes in the level of liquidity of the assets, movements of the interest rates and exchange rates, levels of redemption) and take a more principle-based approach for other factors.
Preferred Option	ESMA decided to consult on option 3 and discarded option 1 and option 2. The baseline scenario (application of the requirements in the Level 1 Regulation without any further specification) was also discarded. Given the level of needed prescriptiveness varies depending on the factors to be considered, ESMA's preferred option would be option 3 above. It is also to be noted that these guidelines will be updated at least every year taking into account the latest market developments, as requested in Article 28 of the MMF Regulation. While updating

	these guidelines, ESMA will consider whether to amend the level of granularity of the requirements on the different risk factors, and the level of complexity of the overall proposed approach.

3. Assessment of the impact of the various options

3.1. Technical advice under Art 15 of the MMF Regulation (reverse repurchase agreement)

Option 1	Qualitative description
Benefits	i) Standardise the liquidity and credit quality criteria applying to the assets mentioned in the Article 15(6) of the MMF Regulation; ii) Prevent the manager of MMF from deciding to invest in certain types of asset that could under certain circumstances jeopardize the objectives of the MMF iii) Prevent the manager of the MMF from circumventing some of the rules on liquidity requirements generally applying to assets the MMF has invested in under the MMF Regulation iv) Fully take into account the other requirements on credit quality and liquidity that already apply on a more general standpoint under the MMF Regulation
Costs	The proposed approach is unlikely to lead to significant additional costs to the extent that it provided clarifications on the Level 1 provisions and does not impose additional obligations beyond those already set by the MMF Regulation, and apart from the specification on haircuts and overcollateralization as mentioned above. ESMA seeks the views of stakeholders on the costs of imposing haircuts as suggested above.

Option 2	Qualitative description
Benefits	i) Standardise the credit quality criteria applying to the assets mentioned in the Article 15(6) of the MMF Regulation; ii) Prevent the manager of MMF from deciding to invest in certain types of asset that could under certain circumstances jeopardize the objectives of the MMF iii) Prevent the manager of the MMF from circumventing some of the rules on liquidity requirements generally applying to assets the MMF has invested in under the MMF Regulation iv) Fully take into account the other

	requirements on credit quality and liquidity that already apply on a more general standpoint under the MMF Regulation; v) allow the manager to determine the classification of the liquidity of fund portfolio investments referred to in the Article 15(6) of the MMF Regulation (which would allow the corresponding requirements to fit as much as possible to the actual situation of the MMF), while establishing procedures that would ensure that while doing so the interest of the investors of the MMF would not be jeopardized.
Costs	The proposed approach is unlikely to lead to significant additional costs to the extent that it provided clarifications on the Level 1 provisions and does not impose additional obligations beyond those already set by the MMF Regulation, and apart from the abovementioned obligation to classify assets depending on their liquidity features. ESMA seeks the views of stakeholders on the costs of imposing such a procedure on the classification of assets.

3.2. Technical advice under the requirements of Article 22 of the MMF Regulation (credit quality assessment)

Option 1	Qualitative description
Benefits	i) Standardise the criteria under the Article 22 of the MMF Regulation, while not being too prescriptive to avoid any systemic risk related issues; ii) Prevent the manager of MMF from determining on his own the criteria that would apply in relation to the abovementioned methodologies and criteria (which could lead to uncertainty for investors and regulators, and less protection of the investors) iii) Prevent the manager of the MMF from circumventing some of the rules on liquidity requirements generally applying to assets the MMF has invested in under the MMF Regulation iv) Fully take into account the other requirements that already apply on a more general standpoint under the MMF Regulation as well as the experience of ESMA in the context of the CRA Regulation.
Costs	The proposed approach is unlikely to lead to significant additional costs to the extent that it provided clarifications on the Level 1 provisions and does not impose additional obligations beyond those already set by the MMF Regulation, and apart from the specifications on the criteria on credit risk assessment

	and methodologies, as mentioned above, which would imply that the manager of the MMF needs to establish internal processes that would allow him to comply with these requirements. ESMA seeks the views of stakeholders on the costs of imposing such criteria as suggested above.

Option 2	Qualitative description
Benefits	i) Fully standardise the criteria under the Article 22 of the MMF Regulation; ii) Prevent the manager of MMF from determining on his own the criteria that would apply in relation to the abovementioned methodologies and criteria (which could lead to uncertainty for investors and regulators, and less protection of the investors) iii) Prevent the manager of the MMF from circumventing some of the rules on liquidity requirements generally applying to assets the MMF has invested in under the MMF Regulation
Costs to regulator and compliance costs	ESMA took the view that the proposed approach was likely to lead to significant additional costs to the extent that it provided clarifications on the Level 1 provisions but also impose detailed additional obligations on the specifications on the criteria on credit risk assessment and methodologies, as mentioned above. This would imply in particular that the manager of the MMF shall establish very standardised internal processes that would allow him to comply with these requirements. ESMA seeks the views of stakeholders on the costs of imposing such criteria as suggested above.

3.3. ITS on the establishment of a reporting template (Art 37 of the MMF Regulation)

Option 1	Qualitative description
Benefits	i) Standardise the information that should be included in the reporting template under the Article 37 of the MMF Regulation; ii) Prevent the manager of MMF from determining on his own the information that should be included in the reporting template under the Article 37 of the MMF Regulation (which would lead to

	uncertainty for investors and regulators, and less protection of the investors). ESMA seeks the views of stakeholders on the costs of imposing such criteria as suggested above.
Costs to regulator and compliance costs	The costs linked to the implementation of this option seem to be limited to the costs for both regulators and managers of MMFs of setting up procedures to submit (and receive in the case of regulators) the abovementioned information.

Option 2	Qualitative description
Benefits	i) Standardise the information that should be included in the reporting template under the Article 37 of the MMF Regulation; ii) Prevent the manager of MMF from determining on his own the information that should be included in the reporting template under the Article 37 of the MMF Regulation (which would lead to uncertainty for investors and regulators, and less protection of the investors); iii) Allow for a full reuse of the information already submitted in the context of the AIFMD reporting template.
Costs to regulator and compliance costs	The costs linked to the implementation of this option seem to be limited to the costs for both regulators and managers of MMFs of setting up procedures to submit (and receive in the case of regulators) the abovementioned information. As compared to the option 1, these costs would be higher for regulators since, as mentioned above, regulators would not be able to directly connect the MMF and the AIFMD databases.

3.4. Guidelines on stress testing (Art 28 of the MMF Regulation)

Option 1	Qualitative description
Benefits	The main benefits of the option proposed are to provide some high level guidance to managers of MMFs on the risk factors of the stress tests mentioned in Article 28 of the MMF Regulation, while allowing for some flexibility on the exact determination of the various reference parameters / thresholds / limits in relation to each of the risk factors, which would be done by the manager of the MMF

Costs to regulator and compliance costs	The costs associated to this option relate to the lack of harmonization of the stress tests that would result from its implementation (for regulators and for investors that would have less clarity on the exact meaning of the results of the corresponding stress tests).

Option 2	Qualitative description
Benefits	The main benefits of the option proposed are to fully standardise the structure and reference parameters of the risk factors of the stress tests mentioned in Article 28 of the MMF Regulation, and therefore allow for a meaningful comparison between the results of the stress tests among the different mangers of MMFs in the EU. This would also allow the reporting template mentioned in Article 37 of the MMF Regulation to include specific fields related to the specifications of the corresponding risk factors included in the Guidelines.
Costs to regulator and compliance costs	The costs linked to the implementation of this option seem to be related on the one hand to the cost of imposing an identical detailed framework for stress tests for all MMF in the EU (in terms of systemic risk related issues), and on the other hand to the operational costs for managers of MMF to set up the corresponding internal processes.

Option 3	Qualitative description
Benefits	The main benefits of the option proposed are to standardise when relevant the structure and reference parameters of the risk factors of the stress tests mentioned in Article 28 of the MMF Regulation, and therefore allow when relevant for a meaningful comparison between the results of the stress tests among the different mangers of MMFs in the EU. This would also allow the reporting template mentioned in Article 37 of the MMF Regulation to include specific fields related to the specifications of the corresponding risk factors included in the Guidelines.
Costs to regulator and compliance costs	The costs linked to the implementation of this option seem to be related on the one hand to the cost of imposing an identical detailed framework for certain risk factors of the stress tests for all MMFs in the EU (in terms of systemic risk related issues), and

	on the other hand to the operational costs for managers of MMFs to set up the corresponding internal processes.

4. Collection of information on the market of MMF in the EU

246. For the purpose of this CBA and consultation paper, ESMA collected information on the market of MMF from national competent authorities. The collected information was the following one (as of 31/12/2016):

A. Number of MMFs in your jurisdiction

B. Number of MMFs under UCITS in your jurisdiction

C. Number of MMFs under AIFMD in your jurisdiction

D. Number of MMFs under AIFMD for which the competent authority of the MMF is different from the competent authority of the AIFM

E. Number of MMFs under UCITS for which the competent authority of the MMF is different from the competent authority of the Management company

F. Aggregated NAV of the MMFs (at fund level - and not share-price / unit-price level)

247. The following responses were provided by NCAs:

Bulgaria	Hungary	Romania	Portugal	Spain	Germany	Estonia	
7	38	1	4	40	12	0	**A**
7	0	1	2	40	11	0	**B**
0	38	0	2	0	1	0	**C**
0	0	0	0	0	0	0	**D**
0	0	0	0	0	0	0	**E**
44	3 129	24	712	38 059	2 578	0	**F (Millions EUR)**

Sweden	Slovenia	Latvia	Lithuania	Italy	Austria	Denmark	
29	4	0	0	12	3	0	**A**
28	4	0	0	12	3	0	**B**
1	0	0	0	0	0	0	**C**
0	0	0	0	0	0	0	**D**
0	0	0	0	1	0	0	**E**

20 796	99	0	0	4 813	73	0	**F (Millions EUR)**

Cyprus	**Greece**	**Belgium**	**France**	**Finland**	**Ireland**	
0	16	8	382	9	103	**A**
0	16	8	149	9	96	**B**
0	-	0	233	0	7	**C**
0	-	0	2	0	1	**D**
0	10	0	12	0	13	**E**
0	540	1 940	395 717	1 684	478 201	**F (Millions EUR)**

Czech Republic	**Malta**	**Iceland**	**The Netherlands**	**Slovakia**	**Luxembourg**	**Liechtenstein**	
2	2	10	20	1	160	3	**A**
0	2	2	2	1	115	2	**B**
2	0	8	18	0	43	1	**C**
1	0	0	0	0	2	0	**D**
0	0	0	0	0	14	0	**E**
26	76	2	7 929	33	290 000	2 338	**F (Millions EUR)**

7.4 Annex IV

Draft technical advice

Technical advice under Article 15 of the MMF Regulation

Article 1

Quantitative and qualitative credit quality requirements applicable to assets referred to in Article 15(6)(a) of the MMF Regulation

The quantitative and qualitative credit quality requirements applicable to the assets referred to in Article 15(6)(a) of the MMF Regulation are those referred to in the delegated act mentioned in Article 22(a), 22(b) and 22(c) of the MMF Regulation[64]. These criteria are those that would be taken into account in the credit quality assessment that would lead to a '*favourable assessment*' as referred to in Article 15(6)(a) of the MMF Regulation.

Quantitative and qualitative liquidity requirements applicable to assets referred to in Article 15(6) of the MMF Regulation

Option a)

Recital 1

Reverse repurchase transaction shall, when entered into, enable the MMF to implement its investment strategy and objective as per the terms of the Regulation. It implies that the counterparty risk shall be sufficiently creditworthy or that the assets received as collateral shall be of sufficient liquidity quality to allow the MMF to meet its objective and obligations, should such assets need to be liquidated.

Article 2

A manager of the MMF shall ensure that the reverse repo agreement meets established market standards and contains, in particular, provisions enabling him to fully enforce its rights in case of default or any early termination event and guaranteeing his discretion for assets received as collateral, by selling any and/or all of such assets, free of any requirements, such as prior notice or approval from the counterparty.

Article 3

If the counterparty to the reverse repurchase agreement is a credit institution or an investment firm under the applicable Union law or a regulation deemed equivalent under the Union law, or a regulated central counterparty, or the ECB, or one of the Member States' central banks, or one of the non-EU central banks deemed equivalent under the requirements of the Article 114 of CRR, that ensures appropriate matching of assets and liabilities, there shall not be further

[64] From a legal standpoint, the cross referencing should be made with the relevant articles of the delegated act under Article 22 of the MMF Regulation. Because such numbering is not known at this stage, this would be done at a later stage.

quantitative and qualitative liquidity requirements as mentioned in Article 15(7) of the MMF Regulation.

Article 4

1. If the counterparty to the reverse repurchase agreement is not regulated as a credit institution or an investment firm under the applicable Union law or a regulation deemed equivalent under the Union law, and in order to ensure sufficient overcollateralization of the reverse repurchase agreement, additional liquidity requirements shall apply depending on such factors as:

- time to maturity of the assets;
- volatility of the price of the assets;
- appropriate policy on stress testing, as per Article 28 of the MMF regulation.

2. Depending on the abovementioned factors, corresponding haircut shall apply to the assets referred to in Article 15(6) of the MMF Regulation. Such haircut shall be based, as a minimum, on the corresponding standards included in the annex B of the report on margin requirements for non-centrally cleared derivatives published by the Basel Committee on Banking Supervision and IOSCO[65].

3. Such haircut shall be revised on a regular basis depending in particular on the revision of the abovementioned report published by the Basel Committee on Banking Supervision.[66]

Option b)

Recital 1

Reverse repurchase transaction shall, when entered into, enable the MMF to implement its investment strategy and objective as per the terms of the Regulation.

The additional quantitative and qualitative liquidity requirements that should apply to the assets referred to in article 15(6) of the MMF Regulation should rely on a categorization of assets that would depend in particular on the extent to which these assets are expected to be quickly convertible to cash without the conversion to cash having impact on the market value of the investment other than marginal one.

Article 2

1. Managers of MMFs are required to receive liquid assets referred to in Article 15(6) of the MMF Regulation that fulfil quantitative and qualitative liquidity requirements applicable to these assets specified in this Article.

2. In order to fulfil the requirement of paragraph 1, liquid assets shall be assets convertible to cash in one business day or less without the conversion to cash having impact on the market value of the investment other than marginal one.

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[65] From a legal standpoint, it may be the case that in the final version of the technical advice, instead of including here a reference to the report, the figures, or the categories of assets that are included in this report will be directly included in the technical advice.

[66] If the haircut figures are directly included in the technical advice as mentioned in the previous footnote, this paragraph 3 will be deleted.

3. For the assessment of the liquidity of the assets referred to in Article 15(6) of the MMF Regulation, the manager of a MMF shall use a number of indicators, including but not limited to:

- the bid-ask spreads;

- the size of the issue;

- the frequency of trades or quotes:

- the average daily trading volume;

- the size of the collateral position of the MMF relative to the average daily trading volume and the size of the issue;

- the issuance date and residual maturity;

- the existence of an active market for the asset and the number, diversity, and quality of market participants, including the extent to which they commit to bring liquidity to the market or the daily trading volume;

- the number of multilateral trading facilities where the asset is referenced;

- the volatility of trading prices for the asset;

- the credit quality of the issuer.

4. The liquidity assessment mentioned in paragraph 2 shall consider both normal market assumptions and stressed markets conditions, in accordance with the corresponding relevant requirements of Article 28 of the MMF Regulation on stress testing and the corresponding requirements included in the Guidelines mentioned in Article 28(7) of the MMF Regulation.

5. In order to fulfil the requirements of paragraphs 1 to 4, the manager of the MMF also has to put in place internal processes that allow him to verify on an ongoing basis that these assets remain at all times *liquid assets* as referred to in the previous paragraphs 1 and 2.

6. When the liquidity assessment of the manager is that these assets would not anymore be liquid assets as referred to in the previous paragraphs 1 and 2, the manager shall take immediately any appropriate action including either the immediate replacement of the collateral with another asset that would be qualified as liquid assets or the immediate termination of the reverse repurchase agreement.

7. Collateral received shall be fully enforceable by the manager of the MMF at any time without reference to or approval from the counterparty.

Technical advice under Article 22(a) of the MMF Regulation

Article 1

Ensuring that the credit quality assessment methodology is subject to validation

1. The credit quality assessment methodologies shall be subject to validation by the manager of an MMF in order to ensure that they are prudent, systematic and continuous.

2. The criteria for the validation of the credit quality assessment methodology shall be designed to:

   (a) Examine the sensitivity of a credit quality assessment methodology to changes in any of its underlying assumptions, including qualitative or quantitative factors;

   (b) Perform an adequate and appropriate assessment of historic credit quality assessments produced by means of that credit quality assessment methodology;

   (c) Ensure the use of reliable inputs, including appropriate size of the data samples;

   (d) Ensure that systemic credit quality assessment anomalies highlighted by back-testing are identified and are appropriately addressed.

3. The criteria for the validation of the credit quality assessment methodology, shall include:

   (a) Regular reviews of the credit quality assessments for the assessed issuers and financial instruments;

   (b) Back testing based on historical experience and empirical evidence;

4. In cases where there is limited quantitative evidence to support the validation of the credit quality assessment methodology, the manager of a MMF shall:

   (a) Apply procedures in a consistent way over time across different issuers and instruments;

   (b) Ensure that the credit quality assessment methodology is supported by sufficient relevant quantitative and qualitative criteria;

   (c) Ensure that the credit quality assessment methodology is a sensible indicator of credit worthiness;

   (d) Have processes in place to ensure that any credit quality assessment anomalies highlighted by review and validation of such methodologies are identified and appropriately addressed.

Article 2
Ensuring that the credit quality assessment methodology is prudent

The manager of a MMF shall use and apply credit quality assessment methodologies which:

(a) Contain controls and processes for their development and related approvals that allow for suitable challenge;

(b) Incorporate all factors deemed relevant to determining the creditworthiness of an issuer and the credit quality of the financial instrument, which shall be supported by historical experience and empirical evidence;

(c) Incorporate procedures for ensuring that the quantitative and qualitative criteria supporting the relevant factors are of a reliable quality and relevant to the issuer and instrument being assessed.

Article 3
Ensuring that the credit quality assessment methodology is systematic

1. The manager of a MMF shall use a credit quality assessment that systematically applies key credit quality assumptions and supporting criteria in the formulation of all credit quality assessments for a given category of issuer or financial instrument, unless there is an objective reason for diverging from it.

2. The manager of a MMF shall use a credit quality assessment methodology which is capable of promptly incorporating the findings from any review of its appropriateness.

3. The manager of a MMF shall use a credit quality assessment methodology which ex-ante defines its own scale of credit rating and identifies the situations where the assessment is deemed to be favourable.

Article 4
Ensuring that the credit quality assessment methodology is continuous

The manager of a MMF shall use a credit quality assessment methodology that is designed and implemented in a way that enables them to:

(a) Continue to be used unless there is an objective reason for the credit quality assessment methodology to change or be discontinued;

(b) Be capable of promptly incorporating any finding from ongoing monitoring or a review, in particular where changes in structural macroeconomic or financial market conditions

would be capable of affecting a credit assessment produced by that credit quality assessment methodology;

(c) Compare credit quality assessments across different categories of issuers and financial instruments.

Technical advice under Article 22(b), 22(c) and 22(d) of the MMF Regulation

The criteria for quantification of the credit risk, and the relative risk of default of an issuer and of the instrument, as referred to in Article 20(2)(a) of the MMF Regulation;

Article 1
Quantitative Criteria for Assessing Credit Quality

In order to establish the credit risk and relative risk of default of an issuer or instrument the manager of a MMF shall refer to a credit quality assessment methodology that incorporates a wide range of quantitative criteria, such as:

(a) Bond pricing information, including credit spreads and pricing of comparable fixed income instruments and related securities.

(b) Credit default-swap pricing information, including credit default-swap spreads for comparable instruments.

(c) Default statistics relating to the issuer or instrument;

(d) Financial indices relevant to the geographic location, industry sector or asset class of the issuer or instrument.

(e) Financial information relating to the issuer, including profitability ratios, interest coverage and leverage metrics.

The criteria for establishing qualitative indicators on the issuer of the instrument, as referred to in Article 20(2)(b) of the MMF Regulation;

Article 2
Qualitative Criteria for Assessing Credit Quality

In order to establish qualitative indicators of the credit risk of an issuer or instrument the manager of a MMF shall refer to a credit quality assessment methodology that incorporates a wide range of qualitative criteria, such as:

(a) Analysis of any underlying assets, for exposures to securitisation this should include the credit risk of the issuer and credit risk of the underlying assets;

(b) Analysis of the relevant market(s), including the degree of volume and liquidity;

(c) Analysis of any structural aspects of the relevant instruments, for structured finance instruments this should also include analysis of the inherent operational and counterparty risk of the structured finance instrument;

(d) Analysis of the credit ratings[67] or rating outlooks[68] assigned to the issuer or instrument; by a credit rating agency registered with ESMA and selected by the manager of an MMF as suited to the specific investment portfolio of the MMF.

(e) Securities-related research relating to the issuer or market sector;

Article 3
Aspects of an Issuer or Instrument to be assessed

In referring to both quantitative and qualitative criteria for establishing the credit quality of an issuer and/or instrument the manager of a MMF shall assess, to the extent possible, the following attributes of the issuer and/or instrument:

(a) Financial condition;

(b) Sources of liquidity;

(c) Ability to react to future market-wide or issuer specific events including ability to repay debt in a highly adverse situation;

(d) Strength of the issuer's industry within the economy relative to economic trends and the issuer's competitive positon in its industry.

Article 4
Overrides

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[67] Regulation 1060/2009 Article 3(a) 'credit rating' means an opinion regarding the creditworthiness of an entity, a debt or financial obligation, debt security, preferred share or other financial instrument, or of an issuer of such a debt or financial obligation, debt security, preferred share or other financial instrument, issued using an established and defined ranking system of rating categories'

[68] Regulation 1060/2009 Article 3(w) 'rating outlook means an opinion regarding the likely direction of a credit rating over the short term, the medium term or both'.

1. Where the manager of an MMF refers to human judgement to override the output of a credit quality assessment methodology the manager of an MMF shall document where this occurs.

2. As part of this documenting process the manager of an MMF shall analyse the instruments or issuers for which assessments have been overridden. This analysis shall include an assessment of the performance of issuer or instrument whose rating has been overridden and provide the rationale for the override.

Article 5
Material change

1.The manager of a MMF shall undertake a new credit quality assessment whenever there is a material change that could have an impact on the existing assessment of the instrument.

2. The material change that could have an impact on the existing assessment of the instrument may relate to all the criteria that the manager of the MMF takes into account in its credit quality assessement methodology including those which are referred to in Articles 1 to 3, such as:

- Bond pricing information, including credit spreads and pricing of comparable fixed income instruments and related securities;

- Credit default-swap pricing information, including credit default-swap spreads for comparable instruments;

- Default statistics relating to the issuer or instrument;

- Financial indices relevant to the geographic location, industry sector or asset class of the issuer or instrument;

- Analysis of underlying assets (particularly for structured finance instruments);

- Analysis of the relevant market(s), including the degree of volume and liquidity;

- Analysis of the structural aspects of the relevant instruments;

- Securities-related research;

- Financial condition of the issuer;

- Sources of liquidity of the issuer;

- Ability of the issuer to react to future market-wide or issuer specific events including ability to repay debt in a highly adverse situation;

- Strength of the issuer's industry within the economy relative to economic trends and the issuer's competitive positon in its industry;

- Analysis of the credit ratings[69] or rating outlooks[70] assigned to the issuer or instrument by such credit rating agency/ies selected by the manager of the MMF as suited to the specific investment portfolio of the MMF.

3. What should be meant by 'material change' for these different criteria shall relate in particular, for the relevant quantitative or qualitative different criteria, to the the risk factors of the stress test scenarios, including those referred to in Article 28 of the MMF Regulation.

4. With respect to the criterion on the analysis of the credit ratings or rating outlooks assigned to the issuer or instrument, this material change should also relate to the downgrade of a money market instrument, securitisation or ABCP below the two highest short-term credit ratings provided by any credit rating agency regulated and certified in accordance with Regulation (EC) No 1060/2009 of the European Parliament and of the Council[71]. To that end, the manager of a MMF should be able to establish an internal procedure for the selection of credit rating agencies suited to the specific investment portfolio of the MMF and for determining the frequency at which the MMF should monitor the ratings of those agencies. However the extent to which the corresponding new assessment mentioned in paragraph 1 would imply that the assessment in itself of the credit quality of the asset is modified will depend on the other abovementioned criteria that the manager of the MMF takes into account in its credit quality assessement methodology. The abovementioned downgrading should indeed be balanced against these other abovementioned criteria that the manager of the MMF takes into account in its credit quality assessement methodology.

5. The material change that could have an impact on the existing assessment of the instrument may also relate to the revision of the credit quality assessment methodology.

[69] Regulation 1060/2009 Article 3(a) 'credit rating' means an opinion regarding the creditworthiness of an entity, a debt or financial obligation, debt security, preferred share or other financial instrument, or of an issuer of such a debt or financial obligation, debt security, preferred share or other financial instrument, issued using an established and defined ranking system of rating categories'

[70] Regulation 1060/2009 Article 3(w) 'rating outlook means an opinion regarding the likely direction of a credit rating over the short term, the medium term or both'.

[71] Regulation (EC) No 1060/2009 of the European Parliament and of the Council of 16 September 2009 on credit rating agencies (OJ L 302, 17.11.2009, p. 1).

esma

Draft implementing technical standards under Article 37 of the MMF Regulation

COMMISSION IMPLEMENTING REGULATION (EU) …/...

of XXX

laying down implementing technical standards with regard to the templates for manager reporting to competent authorities in accordance with Regulation (EU) 2017/XX of the European Parliament and of the Council

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2017/XX of the European Parliament and of the Council on Money Market Funds[72], and in particular Article 37(4) thereof,

Whereas:

(1) In addition to reporting already required under Directives 2009/65/EC[73] or 2011/61/EU[74], it is necessary to ensure that competent authorities are able to detect, monitor and respond to risks in the MMF market. MMFs should therefore report to their competent authorities a detailed list of information on the MMF, including the type and characteristics of the MMF, portfolio indicators and information on the assets held in the portfolio. Competent authorities should collect these data in a consistent way throughout the Union in order to obtain a substantive knowledge of the main evolutions of the MMF market. In order to facilitate a collective analysis of potential impacts of the MMF market in the Union, such data should be transmitted to the European Securities and Markets Authority (ESMA) who should create a central database for MMFs.

(2) In order to facilitate the implementation of the procedures and processes related to these reporting requirements and to minimise the associated costs, the information

[72] OJ L YYY.2017, p.ZZ.

[73] Directive 2009/65/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS)

[74] Directive 2011/61/EU of the European Parliament and of the Council of 8 June 2011 on Alternative Investment Fund Managers and amending Directives 2003/41/EC and 2009/65/EC and Regulations (EC) No 1060/2009 and (EU) No 1095/2010

should be provided using standard forms and templates. It is therefore appropriate to set out a common reporting template for submitting all the information listed in paragraphs 2 and 3 of Article 37 of Regulation 2017/XX/EC to competent authorities by managers of MMFs and to the European Securities and Markets Authority (ESMA) by competent authorities.

(3) This Regulation is based on the draft implementing technical standards submitted by ESMA to the Commission.

(4) ESMA has conducted an open public consultation on the draft implementing technical standards on which this Regulation is based, analysed the potential related costs and benefits,

HAS ADOPTED THIS REGULATION:

Article 1

The manager of a MMF shall use the template set out in Annex I to this Regulation when it reports to its competent authority or the competent authority of each MMF that it manages in accordance with Article 37(2) of Regulation (EU) 2017/XX.

Article 2

The manager of a LVNAV MMF shall use the template set out in Annex II to this Regulation, in addition to the template referred to in Article 1, when it reports to its competent authority or to the competent authority of each LVNAV MMF that it manages in accordance with Article 37(3) of Regulation (EU) 2017/XX.

Article 3

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

It shall apply from XX YYY 2017.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the Commission
The President
Jean-Claude Juncker

ANNEX

Reporting template – Annex to the ITS

esma

ANNEX I – APPLICABLE to ALL MMFS[75]

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics[76] of the MMF			
	(1) General information, identification of the manager of the MMF and the MMF		
	(A.1.1)	Reporting period	
	(A.1.2)	National code of the MMF	
	(A.1.3)	LEI of the MMF	ISO 17442 Legal Entity Identifier (LEI) 20 alphanumerical character code
	(A.1.4)	ECB code (MFI ID code) of the MMF	
	(A.1.5)	Name of the MMF	
	(A.1.6)	Indicate if the MMF is a UCITS or an AIF	UCITS AIF

[75] Please note that the functional section of this template would aim at being be aligned to the AIFMD reporting. In other word, all the relevant functional sections of the AIFMD reporting such as the AIFM Header file, Header Section and Assumption description would be foreseen as well (including e.g. version, creation and time of the file, reporting start date, reporting end date). This would however be specified in further guidelines and IT guidance..

[76] With respect to the information on the "characteristics of the MMF" included in the reporting template, ESMA was of the view that at the stage of the consultation paper, it is necessary to suggest several possible options so that stakeholders could as clearly as possible indicate their preferred option(s). This does not mean that these various options included in this version of the reporting template will still be included in the final version of the reporting template (it might be the case that only one or several of these options would remain).

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics[76] of the MMF			
	(A.1.7)	Indicate if the MMF is marketed solely through employee saving schemes governed by national law and which has natural persons as investors (under Art 16(5) of the MMF Regulation)	(yes/No)
	(A.1.8)	Domicile of the MMF	ISO 3166 — 2 character country code
	(A.1.9)	Member State where the MMF is authorized	ISO 3166 — 2 character country code
	(A.1.10)	Member States where the MMF is marketed	List of Countries (ISO 3166 — 2 character country code)
	(A.1.11)	Inception date of the MMF	ISO 8601 date in the format YYYY-MM-DD
	(A.1.12)	Base currency of the MMF	ISO 4217 Currency Code, 3 alphabetical characters
	(A.1.13)	If any, indicate the name of the benchmark of the MMF	
	(A.1.14)	Identifier of this benchmark of the MMF[77]	
	(A.1.15)	If any, indicate the target return of the MMF	(spread over the benchmark)
	(A.1.16)	Investment horizon of the MMF[78]	days

[77] The final template will include an option to leave this blank as there may be no benchmark information which can be included.

[78] The final template might include an option to leave this blank

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics[76] of the MMF			
	(A.1.17)	National code of the manager of the MMF as provided by the national Authority that supervises the MMF	
	(A.1.18)	National code of the manager of the MMF as provided by the national Authority that supervises the manager of the MMF	
	(A.1.19)	LEI of the manager of the MMF	ISO 17442 Legal Entity Identifier (LEI) 20 alphanumerical character code
	(A.1.20)	ECB code (MFI ID code) of the manager of the MMF[79]	
	(A.1.21)	Name of the manager of the MMF	
	(A.1.22)	Member State where this manager is authorized	
	(A.1.23)	LEI of the depositary of the MMF	ISO 17442 Legal Entity Identifier (LEI) 20 alphanumerical character code
	(A.1.24)	National code of the depositary of the MMF	
	(A.1.25)	Legal name of the depositary of the MMF	

[79] This would ease the interconnection between the ECB and the MMF databases (ECB Register of Institutions and Assets Database (RIAD). Please see: https://www.ecb.europa.eu/stats/financial_corporations/list_of_financial_institutions/html/index.en.html - The MFI ID code is unique to each institution in the MFI list. Each central bank in the EU allocates a unique MFI ID code for every MFI resident in their territory they report to the ECB (in accordance to national banking supervision decisions). The agreed convention for the MFI ID code is alphanumerical, with the first two digits representing the two-digit ISO code for the country of residence of the MFI and the remaining number of digits (no limit has been specified) is any combination of alphanumerical characters. The MFI ID code convention has been set up and agreed on by the ECB and the NCBs. It is legally binding and is laid down in the Guideline of the European Central Bank of 4 April 2014 concerning certain statistical reporting requirements of the European Central Bank and the procedures for reporting by the national central banks of statistical information in the field of money and banking statistics (ECB/2014/15). Please refer to Article 25-25 and Annex V

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics[76] of the MMF			
Art 37(2) (a)	(2) Type of the MMF		
	(A.2.1)	MMF type [Select one]	Short-term VNAV MMF Short-term Public debt CNAV MMF Short-term LVNAV MMF Standard VNAV MMF
Art 37(2) (a)	(3) Characteristics of the MMF		
	a) Master / feeder information (MMF marketed solely through employee saving schemes governed by national law and which has natural persons as investors)		
	(A.3.1)	If the MMF complies with the requirements of Article 16(5) of the MMF Regulation (MMF marketed solely through employee saving schemes governed by national law and which has natural persons as investors), indicate if the MMF is a master or a feeder fund [Select one]	Master Feeder
		In that same case, if the MMF is a feeder:	
	(A.3.2)	LEI of the master of the MMF[80]	ISO 17442 Legal Entity Identifier (LEI) 20 alphanumerical character code
	(A.3.3)	National code of the master of the MMF	
	(A.3.4)	Legal name of the master of the MMF	

[80] The final template will include an option to leave this blank as the MMF may not be a master (this is also true in the case of the fields A.3.2 and A.3.3

MMF Level 1 Ref	Item	Question	Reported data
(A)	Section 1 – Applicable to all MMFs – Type and characteristics[76] of the MMF		
	b) Information on share classes		
	(A.3.5)	Indicate if the MMF has share classes	
	(A.3.6)	The number of share classes	
	(A.3.7)	The single ISIN of the different share classes	ISO 6166 ISIN 12 character alphanumerical code
	(A.3.8)	National code of the different share classes	
	(A.3.9)	If there is more than one share class, indicate the oldest share class	
	(A.3.10)	Net asset value of the different share classes (per unit/share (based on the issue and redemption price)[81]	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
	(A.3.11)	Net asset value of the different share classes (per unit/share (based on the issue and redemption price)[82]	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)
	(A.3.12)	Constant net asset value of the different share classes (per unit/share (based on the issue and redemption price) calculated as set out in Article 31 (32) of the MMF Regulation) (in the case of CNAV and (LVNAV))	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
	(A.3.13)	Constant net asset value of the different share classes (per unit/share (based on the issue and redemption price calculated as set out in Article 31 (32) of the MMF Regulation) (in the case of CNAV and (LVNAV))	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)

[81] The calculation method would be specified in Guidelines. This would take into account the contents of Article 72 of the delegated Regulation 231/2013.

[82] The calculation method would be specified in Guidelines. This would take into account the contents of Article 72 of the delegated Regulation 231/2013.

MMF Level 1 Ref	Item	Question	Reported data
(A)	Section 1 – Applicable to all MMFs – Type and characteristics[76] of the MMF		
	(A.3.14)	Shadow net asset value of the different share classes (per unit/share (based on the issue and redemption price) (in the case of CNAV and (LVNAV))	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
	(A.3.15)	Shadow net asset value of the different share classes (per unit/share (based on the issue and redemption price (in the case of CNAV and LVNAV)	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)
	(A.3.16)	Number of outstanding units/shares of the MMF of the different share classes	
	c) Information on preceding fund or liquidation[83]		
	If the MMF has been merged with another fund, please indicate: (if no, skip remainder of the question and go to Item A.3.20)		
	(A.3.17)	Name of that fund	
	(A.3.18)	LEI of that fund	ISO 17442 Legal Entity Identifier (LEI) 20 alphanumerical character code
	(A.3.19)	Date when the MMF has been merged with another fund.	ISO 8601 date in the format YYYY-MM-DD
	If the MMF has been acquired by another fund, please indicate: (if no, skip remainder of the question and go to Item A.3.23)		
	(A.3.20)	Name of that fund	
	(A.3.21)	LEI of that fund	ISO 17442 Legal Entity Identifier (LEI) 20 alphanumerical character code

[83] It will be specified in the final version of the template that this is "one-off" reporting rather than on-going reporting,

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics[76] of the MMF			
	(A.3.22)	Date when the MMF has been acquired by another fund.	ISO 8601 date in the format YYYY-MM-DD
	(A.3.23)	if the MMF is being liquidated, please indicate the date of liquidation	ISO 8601 date in the format YYYY-MM-DD

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2)(b)	(4)	Portfolio indicators of the MMF84	
	a) Total value of assets		
	(A.4.1)	Total value of assets under management of the MMF[85]	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
	(A.4.2)	Total value of assets under management of the MMF[86]	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)
	b) NAV (subfund level)		
	(A.4.3)	Net asset value of the MMF (subfund level)	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)

[84] With respect to the information on the "portfolio indicators of the MMF" included in the reporting template, ESMA was of the view that at the consultation stage, it is necessary to suggest several options so that stakeholders can clearly indicate their preferred option(s). This does not mean that all these options will be retained in the final version of the reporting template (it might be the case that only one or several of these options is retained).

[85] The calculation method would be specified in Guidelines

[86] The calculation method would be specified in Guidelines.

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2)(b)	(4)	Portfolio indicators of the MMF84	
	(A.4.4)	Net asset value of the MMF (subfund level)	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)
	c) WAM		
	(A.4.5)	Weighted Average Maturity of the MMF calculated as set out in Article 2(19) and recital 36 of the MMF Regulation.	(days)
	d) WAL		
	(A.4.6)	Weighted Average Life of the MMF calculated as set out in Article 2(20), 24(1)(b), 25(1)(b) and recital 37 of the MMF Regulation.	(days)
	e) Liquidity indicators ***Portfolio Liquidity Profile***		

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2)(b)	(4) Portfolio indicators of the MMF[84]		
	(A.4.7)	% of assets qualifying for the daily liquidity buffer (daily maturing assets as defined under Articles 24 and following of the MMF Regulation)	%
	(A.4.8)	% of assets qualifying for the weekly liquidity buffer (weekly maturing assets as defined under Articles 24 and following of the MMF Regulation)	%
	(A.4.9)	Portfolio liquidity profile[87]	Percentage of portfolio capable of being liquidated that fall within each period
Period	1 days or less ☐ 2 - 3days ☐ 4 - 7 days ☐ 8-30 days ☐ 31- 90 days ☐ Above 90 days ☐		
	(A.4.10)	Value of unencumbered cash (breakdown per country where the bank account is located and currency)[88]	
	f) Yield[89]		

[87] The range of time intervals considered here is different from the AIFMD one because of the different nature of the funds targeted by the two databases. Views from stakeholders are sought on this specific point.

[88] As referred to in the AIFMD reporting template. Please also see the corresponding question to stakeholders in the corresponding part of the consultation paper.

[89] Please also see the corresponding questions to stakeholders in the corresponding part of the consultation paper.

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2)(b)	(4)	Portfolio indicators of the MMF84	
	(A.4.11)	7-days gross yield of the MMF[90]	%
	(A.4.12)	7-days gross yield of the different share classes[91]	%
	(A.4.13)	Yield to maturity[92]	%
	(A.4.14)	Yield to maturity of the different share classes	%
	(A.4.15)	Cumulative returns[93]	%

[90] Calculated as in the SEC MMF context. Please see the exact calculation method specified here: https://www.sec.gov/files/formn-mfp.pdf "" (item A.19) This definition would be also specified in further Guidelines. The SEC define it in the following manner: "*Based on the 7 days ended on the last day of the prior month, calculate the fund's yield by determining the net change, exclusive of capital changes and income other than investment income, in the value of a hypothetical pre-existing account having a balance of one share at the beginning of the period and dividing the difference by the value of the account at the beginning of the base period to obtain the base period return, and then multiplying the base period return by (365/7) with the resulting yield figure carried to at least the nearest hundredth of one percent. The 7-day gross yield should not reflect a deduction of shareholders fees and fund operating expenses*". The calculation should then be understood as follows: i) Compute the interest income earned by the fund over the last 7 days ii) Divide that amount by size of the fund at the beginning of the period considered iii) Multiply what is obtained by 365/7. Please note that no fee is subtracted.

[91] Calculated as in the SEC MMF context. Please see the exact calculation method specified here: https://www.sec.gov/files/formn-mfp.pdf "" (item A.19) This definition would be also specified further in Guidelines

[92] The exact calculation method would be specified in Guidelines. Generally speaking, the yield to maturity of a bond or any other fixed-income security is the internal rate of return earned by an investor, assuming the bond will be held until maturity. It can be computed at the portfolio level taking into account all future revenues generated by the assets until maturity and the value at which they were entered in the portfolio.

[93] The exact calculation method would be specified in Guidelines.

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2)(b)	(4)	Portfolio indicators of the MMF84	
Range	YTD ☐ 1 month ☐ 3 months ☐ 1 year ☐ 3 years ☐ 5 years ☐		
	(A.4.16)	Calendar year performance (net return) (fund level)[94]	%
Range	Year N-1 ☐ Year N-2 ☐ Year N-3 ☐		
	(A.4.17)	Calendar year performance (net return) of the different share classes[95]	%
Range	Year N-1 ☐ Year N-2 ☐ Year N-3 ☐		
	(A.4.18)	Monthly portfolio volatility and Monthly portfolio volatility of the shadow NAV (when applicable)	%
Range	1 year ☐ 2 years ☐ 3 years ☐		

[94] The exact calculation method would be specified in Guidelines (see the related question in the core part of the consultation paper)

[95] The exact calculation method would be specified in Guidelines and would make use of the following standard formulation of performance: (NAV_F – NAV_{F-1}/ NAV_{F-1}, plus or minus dividends).

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2)(d) + Art 28	(5)	Stress tests of the MMF	
	a) Results of the stress tests of the MMF		
	(A.5.1)	Results of the stress test of the MMF conducted within the reporting period as set out in Art 28(1) of the MMF Regulation and the corresponding ESMA guideline	(in the final version of the template, this might be standardized depending on the contents of the Guidelines on stress tests mentioned in this CP – Please also see the appendix to this annex)[96]
	(A.5.2)	In the case of CNAV and LVNAV MMFs, indicate the results of the stress tests mentioned in the previous field in terms of difference between the constant NAV per unit or share and the NAV per unit or share	
	(A.5.3)	Methodology used by the manager when carrying out the stress test of the MMF conducted within the reporting period as set out in Art 28(1) of the MMF Regulation	Free text
	b) Proposed action plan (where applicable)		
	(A.5.4)	Depending on the results shown in a), indicate the proposed action plan as set out in Art 28(4) of the MMF Regulation	

[96] Ideally, depending on the outcome of the work on the Guidelines under Article 28 of the MMF Regulation, in the final version of the ITS standardised stress tests would be proposed for meaningful comparison purposes. Otherwise, in the reporting template, information on scenarios would be sought in order to be able to better assess the results. This information would include: (i) name, (ii) factors, (iii) holding period, (iv) result, (v) vulnerabilities (Y/N), (vi) extensive report (Y/N). Please also see the appendix to this annex

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2) (d) + Art 9	(6) Information on the assets held in the portfolio of the MMF		
	a) Money market instruments, Eligible securitisations and asset backed commercial paper **Please note that all the next fields A.6. are meant to be included in a line-by-line reporting template[97].**		
	(A.6.1)	Type of the Money market instrument, Eligible securitisations and asset backed commercial paper [Select one]	
		The types of money market instruments should be selected among the following ones (please see Article 10 – *please note that ESMA will consider in the final version of the reporting template whether to replace the list of possible money market instruments mentioned above with only one possible field "Money market instrument under Article 10. Views from stakeholders are sought on this point*")	Money market instruments admitted to or dealt in on a regulated market (Art 50(a) of UCITSD) as defined in Article 4(1) (14) of Directive 2004/39 Money market instruments dealt in on another regulated market in the EU (Art 50(b) of UCITSD) Money market instruments admitted to official listing /dealt in on another regulated market in a third country (Art 50(c) of UCITSD) Other Money market instruments Of which Money market instruments issued or guaranteed by financial institutions (Art 50(h)(i) of UCITSD) Money market instruments issued by an undertaking any securities of which are dealt in on regulated markets (Art 50(h)(ii) of UCITSD) Money market instruments issued or guaranteed by an establishment subject to prudential supervision (Art 50(h)(iii) of UCITSD) Money market instruments issued by other bodies belonging to the categories approved by the competent authorities of the MMF home Member State (Art 50(h)(iv) of UCITSD)

[97] Please also note that this table is a preliminary Word version of the reporting template that would actually be used by managers of MMFs. The corresponding IT file will differ and would be further specified in the Guidelines and IT guidance that would be issued after the ITS on the reporting template are published. It will take the form of a table with a number of fields being the characteristics of each asset.

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2) (d) + Art 9	(6)	Information on the assets held in the portfolio of the MMF	
		The types of eligible securitisations and asset backed commercial paper (please see Art 11 of the MMF Regulation):	Securitisations referred to in Article 13 of Commission Delegated Regulation (EU) No 2015/61 ABCP as referred to in Art 11(1)(b) of the MMF Regulation A simple, transparent and standardised securitisation or ABCP as referred to in Art 11(1)(c) of the MMF Regulation
	(A.6.2)	Name of the Money market instrument, eligible securitisations or asset backed commercial paper	
	(A.6.3)	ISIN of the Money market instrument, eligible securitisations and asset backed commercial paper	ISO 6166 ISIN 12 character alphanumerical code
	(A.6.4)	CFI (if available) of the Money market instrument, eligible securitisations and asset backed commercial paper	ISO 10692 CFI, 6 characters alphabetical code
	(A.6.5)	CUSIP of the Money market instrument, eligible securitisations and asset backed commercial paper	
	(A.6.6)	Country of the Money market instrument, eligible securitisations and asset backed commercial paper[98]	ISO 3166 — 2 character country code
	(A.6.7)	LEI of the Issuer (In the case of an eligible securitisation, the Issuer is the Special vehicle Entity)	ISO 17442 Legal Entity Identifier (LEI) 20 alphanumerical character code
	(A.6.8)	Name of the issuer	

[98] In the case of eligible securitisations and asset-backed commercial paper, this is not the country of the sponsor, but the country of the vehicle itself.

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2) (d) + Art 9	(6)	Information on the assets held in the portfolio of the MMF	
	(A.6.9)	Issuer category The issuer categories should be selected among the following ones [Select one]	Sovereign (EU) Sovereign (non-EU) Regional Local National Public body EU Public body (except National Public body) Non EU Public body Supranational Public body (EU) Supranational Public body (other than EU) Credit institution Other financial corporations Non-financial corporations
	(A.6.10)	LEI of the Parent company of the Issuer	ISO 17442 Legal Entity Identifier (LEI) 20 alphanumerical character code
	(A.6.11)	Name of the Parent company of the Issuer	
	(A.6.12)	In the case of an eligible securitisation, LEI of the sponsor	ISO 17442 Legal Entity Identifier (LEI) 20 alphanumerical character code
	(A.6.13)	In the case of an eligible securitisation, name of the sponsor	

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2) (d) + Art 9	(6)	Information on the assets held in the portfolio of the MMF	
	(A.6.14)	In the case of an eligible securitisation, the type of underlying	Trade receivables Consumer loans Leasing Credit card receivables Loans to corporates or SME Residential Mortgage Commercial Mortgage Other assets
	(A.6.15)	Maturity date of the money market instrument, eligible securitisations and asset backed commercial paper	ISO 8601 date in the format YYYY-MM-DD
	(A.6.16)	Currency of the Money market instrument, eligible securitisations or asset backed commercial paper	(ISO 4217 Currency Code, 3 alphabetical characters)
	(A.6.17)	Quantity of the Money market instrument, eligible securitisations or asset backed commercial paper	
	(A.6.18)	Price of the Money market instrument, eligible securitisations or asset backed commercial paper	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
	(A.6.19)	Price of the Money market instrument, eligible securitisations or asset backed commercial paper	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)
	(A.6.20)	Accrued interests	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
	(A.6.21)	Accrued interests	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2) (d) + Art 9	(6) Information on the assets held in the portfolio of the MMF		
	(A.6.22)	Total clean market value of the Money market instrument, eligible securitisations or asset backed commercial paper	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
	(A.6.23)	Total clean market value of the Money market instrument, eligible securitisations or asset backed commercial paper	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)
	(A.6.24)	Method used to price the Money market instrument, eligible securitisations or asset backed commercial paper	mark to market mark-to-model amortised cost
	(A.6.25)	Whether the outcome of the internal credit assessment procedure is favourable/unfavourable	(favourable/unfavourable)
	(A.6.26)	Outcome of the internal credit assessment procedure	(quantified outcome – to be determined, if relevant[99])
	(A.6.27)	Provide the next interest rate reset date (as mentioned in Art 10(2) of the MMF Regulation)	ISO 8601 date in the format YYYY-MM-DD
	(A.6.28)	Whether the Money market instrument, eligible securitisations or asset backed commercial paper is one of the assets mentioned in Article 18(2) of the MMF Regulation	(Yes/No)
	(A.6.29)	Whether the Money market instrument is one of the assets mentioned in Article 17(7)(a) of the MMF Regulation	(Yes/No)
	(A.6.30)	Whether the Money market instrument is one of the assets mentioned in Article 17(7)(b) of the MMF Regulation	(Yes/No)

[99] The appropriateness and final contents of this field will depend on the outcome of the work on the technical advice under Article 22 (credit quality assessment) of the MMF Regulation.

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2) (d) + Art 9	(6)	Information on the assets held in the portfolio of the MMF	
	b) Other assets[100]		
	(A.6.31)	Type of the Other assets [Select one] The types of other assets should be selected among the following ones (please see Art 9 of the MMF Regulation)	Deposits with credit institutions as referred to in Article 12 of the MMF Regulation Reverse repurchase agreements as referred to in Article 15 of the MMF Regulation Repurchase agreements as referred to in Article 14 of the MMF Regulation Units or shares of other MMFs as referred to in Article 16 of the MMF Regulation Financial derivative instruments as referred to in Article 13 of the MMF Regulation Of which Financial derivative instruments dealt in on a regulated market (and specify if it falls under Article 50(1)(a), (b) or (c) of Directive 2009/65/EC) Financial derivative instruments dealt OTC
	(A.6.32)	Name of the Other asset (name of the derivative contract in case of financial derivative instrument)	
	(A.6.33)	ISIN of the Other asset (except in the case of Financial derivative instruments – please see A.6.37)	ISO 6166 ISIN 12 character alphanumerical code

[100] In the final version of the reporting template, the information on other assets might be split into different tables related to the different types of "other asset": a) financial derivative instrument b) Repurchase agreements / Reverse repurchase agreements c) deposits d) units or shares of MMFs.

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2) (d) + Art 9	(6)	Information on the assets held in the portfolio of the MMF	
	(A.6.34)	CFI (if available) of the Other asset	ISO 10692 CFI, 6 characters alphabetical code
	(A.6.35)	CUSIP of the Other asset	
	(A.6.36)	Type of derivative instrument under Article 13(a) of the MMF Regulation [select one]	interest rate currencies foreign exchange rates indices of interest rates indices of foreign exchange rates indices of currencies
	(A.6.37)	Product identification type [101] (in the case of financial derivative instrument)	ISIN AII
	(A.6.38)	Product identification (in the case of financial derivative instrument)	For product identifier type ISIN: ISO 6166 ISIN 12 character alphanumerical code For product identifier type AII: Complete AII code in accordance with Article 4(8) of Regulation 2017/105.
	(A.6.39)	Name of the underlying	

[101] Financial derivative identification in EMIR

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2) (d) + Art 9	(6)	Information on the assets held in the portfolio of the MMF	
	(A.6.40)	Underlying identification type[102] (in the case of financial derivative instrument)	I = ISIN A = AII U = UPI X = Index
	(A.6.41)	Underlying identification (in the case of financial derivative instrument)	For underlying identification type I: ISO 6166 ISIN 12 character alphanumerical code For underlying identification type A: complete AII code in accordance with Article 4(8) of Regulation 2017/105) For underlying identification type U: UPI For underlying identification type X: ISO 6166 ISIN if available, otherwise full name of the index as assigned by the index provider
	(A.6.42)	Notional currency 1[103] (in the case of financial derivative instrument)	ISO 4217 Currency Code
	(A.6.43)	Notional currency 2[104] (in the case of financial derivative instrument)	ISO 4217 Currency Code
	(A.6.44)	Country of the Other asset	ISO 3166 — 2 character country code

[102] Financial derivative identification in EMIR

[103] The currency of the notional amount. In the case of an interest rate derivative contract, this will be the notional currency of leg 1.

[104] The currency of the notional amount. In the case of an interest rate derivative contract, this will be the notional currency of leg 2.

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2) (d) + Art 9	(6)	Information on the assets held in the portfolio of the MMF	
	(A.6.45)	Issuer category The issuer categories should be selected among the following ones (please see Art 20(2)(e) of the MMF Regulation) [Select one]	Sovereign (EU) Sovereign (non-EU) Regional Local National Public body EU Public body (except National Public body) Non-EU Public body Supranational Public body (EU) Supranational Public body (other than EU) Credit institution Other financial corporations Non-financial corporations
	(A.6.46)	LEI of the Issuer	ISO 17442 Legal Entity Identifier (LEI) 20 alphanumerical character code
	(A.6.47)	Name of the Issuer	
	(A.6.48)	LEI of the Parent company of the Issuer	ISO 17442 Legal Entity Identifier (LEI) 20 alphanumerical character code
	(A.6.49)	Name of the Parent company of the Issuer	
	(A.6.50)	Maturity date of the other asset	ISO 8601 date in the format YYYY-MM-DD

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2) (d) + Art 9	(6) Information on the assets held in the portfolio of the MMF		
	(A.6.51)	Exposure of the Other asset (in the case of reverse repurchase agreement, this is the amount of cash provided to the counterparty)[105]	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
	(A.6.52)	Exposure of the Other asset (in the case of reverse repurchase agreement, this is the amount of cash provided to the counterparty)[106]	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)
	(A.6.53)	Market value of the collateral received (in relation to the Other asset)	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
	(A.6.54)	Market value of the collateral received (in relation to the Other asset)	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)
	(A.6.55)	Whether the outcome of the internal credit assessment procedure is favourable/unfavourable (for the different liquid transferable securities or (other) money market instruments received as part of a reverse repurchase agreement mentioned in Art 15(6) of the MMF Regulation)[107]	(favourable/unfavourable)

[105] The calculation method would be specified in Guidelines.

[106] The calculation method would be specified in Guidelines.

[107] If the MMF receives as collateral different assets within the meaning of Article 15(6) of the MMF Regulation, the outcome should be reported for each asset.

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2) (d) + Art 9	(6) Information on the assets held in the portfolio of the MMF		
	(A.6.56)	Outcome of the internal credit assessment procedure (for the different liquid transferable securities or (other) money market instruments received as part of a reverse repurchase agreement mentioned in Article 15(6) of the MMF Regulation) [108]	(quantified outcome – to be determined, if relevant[109])
	(A.6.57)	Provide the the next interest rate reset date (as mentioned in Art 10(2) of the MMF Regulation)	ISO 8601 date in the format YYYY-MM-DD
	(A.6.58)	Name of the Counterparty	
	(A.6.59)	LEI of the Counterparty	ISO 17442 Legal Entity Identifier (LEI) 20 alphanumerical character code
	In the context of the reverse repurchase agreements and assets defined in Article 15(2) of the MMF Regulation that were received by the MMF, please indicate:		
	(A.6.60)	ISIN of these different assets	ISO 6166 ISIN 12 character alphanumerical code
	(A.6.61)	Market value of these different assets	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
	(A.6.62)	Market value of these different assets	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)

[108] If the MMF receives as collateral different assets within the meaning of Article 15(6) of the MMF Regulation, the outcome should be reported for each asset.

[109] The appropriateness and final contents of this field will depend on the outcome of the work on the technical advice under Article 22 (credit quality assessment) of the MMF Regulation.

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2) (d) + Art 9	(6)	Information on the assets held in the portfolio of the MMF	
	(A.6.63)	In the context of the reverse repurchase agreements, whether there are any assets as defined in Article 15(6) of the MMF Regulation that were received by the MMF	(yes/No)
	if no, skip remainder of the question and go to Item A.6.67 If yes, please indicate:		
	(A.6.64)	ISIN of these different assets	ISO 6166 ISIN 12 character alphanumerical code
	(A.6.65)	Market value of these different assets	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
	(A.6.66)	Market value of these different assets	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)
	(A.6.67)	With respect to repurchase agreement, please indicate `the amount of cash received by the MMF as part of repurchase agreements (as mentioned in Art 14(d) of the MMF Regulation)?[110]	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
	(A.6.68)	With respect to repurchase agreement, please indicate `the amount of cash received by the MMF as part of repurchase agreements (as mentioned in Art 14(d) of the MMF Regulation)?[111]	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)

[110] Please also see the corresponding question in the corresponding part of the consultation paper.

[111] Please also see the corresponding question in the corresponding part of the consultation paper.

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2)(e)	(7)	Liabilities of the MMF	
	a) information on the investors – investor concentration		
	(A.7.1)	Specify the approximate percentage of the MMF's equity that is beneficially owned by the five beneficial owners that have the largest equity interest in the MMF (as a % of outstanding units/ shares of the MMF, look-through to the ultimate beneficial owners where known or possible)	%
	b) information on the investors – breakdown of investor concentration		
	(A.7.2)	Specify the breakdown of investor concentration by status of investors (estimate if no precise information available): 1) Professional clients (as defined in Directive 2004/39/EC (MiFID) 2) Retail investors	
		- Professional clients (as defined in Directive 2004/39/EC (MiFID)	% (of AuM)
		- Retail investors	% (of AuM)
-	**c) information on the investors – geographical breakdown**		

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2)(e)	(7) Liabilities of the MMF		
	(A.7.3)	Provide the breakdown of the ownership of units / shares in the MMF by investor group (look-through to the ultimate beneficial owners where known or possible)	(% of AuM) Non-financial corporations Banks Insurance corporations Other financial institutions Pension plans / funds General government Other collective investment undertakings Households Unknown None
	(A.7.4)	Specify the geographical breakdown of investors by country [112] (estimate if no precise information available)	
		Country	(% of AuM, Country - ISO 3166 — 2 character)

d) Information on investors - subscription and redemption activity

Investor redemptions

[112] For aggregation purposes in particular, the codes of countries would need to be specified as in the AIFMD reporting template. But this would be best placed in guidelines, as in the AIFMD guidelines.

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2)(e)	(7)	Liabilities of the MMF	
	(A.7.5)	1) Does the MMF provide investors with withdrawal / redemption rights in the ordinary course? (if no, skip remainder of the question and go to Item A.7.10)	(yes/No)
	(A.7.6)	2) What is the frequency of investor redemptions (if multiple classes of shares or units, report for the largest share class by NAV) [Select one]	Daily Weekly Monthly Bimonthly Other
	(A.7.7)	3) What is the notice period required by investors for redemptions in days (report asset weighted notice period if multiple classes or shares or units)	Days
	(A.7.8)	4) What is the investor 'lock-up' period in days (report asset weighted notice period if multiple classes or shares or units)	Days
	(A.7.9)	5) As at the reporting date, what percentage of the MMFs NAV is subject to the following arrangements :	
		Gates	% of NAV
		Suspension of dealing	% of NAV
		Liquidity fees	% of NAV
		Other arrangements for managing illiquid assets	Type of arrangement

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2)(e)	(7)	Liabilities of the MMF	
			% of NAV
	(A.7.10)	Net Asset Value of the MMF over the reporting period (in EUR, including the impact of subscriptions and redemptions) (at the last day of the month)	
		1st Month of Reporting Period	
		2nd Month of Reporting Period	
		3rd Month of Reporting Period	
		4th Month of Reporting Period	
		5th Month of Reporting Period	
		6th Month of Reporting Period	
		7th Month of Reporting Period	
		8th Month of Reporting Period	
		9th Month of Reporting Period	
		10th Month of Reporting Period	
		11th Month of Reporting Period	
		12th Month of Reporting Period	
	(A.7.11)	Subscriptions over the reporting period (EUR)	
		1st Month of Reporting Period	
		2nd Month of Reporting Period	

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2)(e)	(7)	Liabilities of the MMF	
		3rd Month of Reporting Period	
		4th Month of Reporting Period	
		5th Month of Reporting Period	
		6th Month of Reporting Period	
		7th Month of Reporting Period	
		8th Month of Reporting Period	
		9th Month of Reporting Period	
		10th Month of Reporting Period	
		11th Month of Reporting Period	
		12th Month of Reporting Period	
	(A.7.12)	Redemptions over the reported period (EUR)	
		1st Month of Reporting Period	
		2nd Month of Reporting Period	
		3rd Month of Reporting Period	
		4th Month of Reporting Period	
		5th Month of Reporting Period	
		6th Month of Reporting Period	
		7th Month of Reporting Period	
		8th Month of Reporting Period	
		9th Month of Reporting Period	

MMF Level 1 Ref	Item	Question	Reported data
(A) Section 1 – Applicable to all MMFs – Type and characteristics of the MMF			
Art 37(2)(e)	(7)	Liabilities of the MMF	
		10th Month of Reporting Period	
		11th Month of Reporting Period	
		12th Month of Reporting Period	

ANNEX II – Applicable to LVNAV MMFs (in addition to the information to be reported by all MMFs)

MMF Level 1 Ref	Item	Question	Reported data
(B) ANNEX II - Applicable to LVNAV MMF (in addition to the information to be reported by all MMFs)			
Art 37(3)(a)	(1) Additional information on LVNAV MMF		
		a) Indicate every event in which the price of an asset valued by using the amortised cost method in accordance with the first subparagraph of Article 29(7) deviates from the price of that asset calculated in accordance with Article 29(2), (3) and (4) by more than 10 basis points.[113]	
	(B.1.1)	Valuation date[114]	ISO 8601 date in the format YYYY-MM-DD
	(B.1.2)	ISIN of the asset	ISO 6166 ISIN 12 character alphanumerical code
	(B.1.3)	CFI (if available) of the asset	ISO 10692 CFI, 6 characters alphabetical code
	(B.1.4)	CUSIP of the asset	
	(B.1.5)	Price (paragraph 2 to 4 of Article 29) (at the valuation date mentioned above when the event occurs)	
	(B.1.6)	Price (amortised cost method) (at the valuation date mentioned above when the event occurs)	
	(B.1.7)	From the valuation date specified above, how long did the price of the asset valued by using the amortised cost method of this asset deviated by more than 10 basis points from the price of that asset?	(days)

[113] These fields should be reported for every asset the price of which, by using the amortised cost method, would deviate in such a way.

[114] The first day where the event occurs.

(B.1.8)	During the period mentioned in the previous field, what was the average spread between the two values?	
(B.1.9)	During the period mentioned in the previous field, what was the minimum price deviation between the two values?	
(B.1.10)	During the period mentioned in the previous field, what was the maximum price deviation between the two values?	
	b) Indicate every event in which the constant NAV per unit or share calculated in accordance with Article 32(1) and (2) deviates from the NAV per unit or share calculated in accordance with Article 30 by more than 20 basis points.	
(B.1.11)	Valuation date[115]	ISO 8601 date in the format YYYY-MM-DD
(B.1.12)	The single ISIN of the share class / unit	ISO 6166 ISIN 12 character alphanumerical code
(B.1.13)	National code of the share class / unit	
(B.1.14)	Constant NAV (Article 31) (at the valuation date mentioned above when the event occurs)	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
(B.1.15)	Constant NAV (Article 31) (at the valuation date mentioned above when the event occurs)	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)
(B.1.16)	NAV (Article 30) (at the valuation date mentioned above when the event occurs)	(EUR) (if the base currency is not EUR the exchange ratio used should the ECB one)
(B.1.17)	NAV (Article 30) (at the valuation date mentioned above when the event occurs)	(base currency - ISO 4217 Currency Code, 3 alphabetical characters)

[115] The first day where the event occurs.

(B.1.18)	From the valuation date specified above, how long did the constant NAV per unit or share calculated deviate from the NAV per unit or share calculated by more than 20 basis points?	(days)
(B.1.19)	During the period mentioned in the previous field, what was the average spread between the two values?	
(B.1.20)	During the period mentioned in the previous field, what was the minimum price deviation between the two values?	
(B.1.21)	During the period mentioned in the previous field, what was the maximum price deviation between the two values?	
	c) Indicate every event in which a situation mentioned in Article 34(3) occurs and the measures taken by the board in accordance with points (a) and (b) of Article 34(1).	
(B.1.22)	Date of the event	ISO 8601 date in the format YYYY-MM-DD
(B.1.23)	Date when the measure was taken	ISO 8601 date in the format YYYY-MM-DD
(B.1.24)	Type of measure (Whenever the proportion of weekly maturing assets falls below 30% of the total assets of the MMF and whenever the net daily redemptions on a single business day exceed 10% of total assets)	liquidity fees on redemptions redemption gates suspension of redemptions take no immediate action other than fulfilling the obligation laid down in Article 24(2) of the MMF Regulation
(B.1.25)	Type of measure (Whenever the proportion of weekly maturing assets falls below 10% of its total assets)	liquidity fees on redemptions suspension of redemptions

Appendix – How to present the results of stress test in the reporting template[116]

The example below is based on the contents of the draft Guidelines on stress tests. Depending on the outcome of the work on these Guidelines, this table would be accordingly amended:

Risk factor	Type of stress test	Calibration	Results (at least one result has to be given for each risk factor – please also see the explanatory text below the table)
Liquidity	Univariate	The bid and ask spread multiplied by a factor, which could be of 4	
	Multivariate	Bid ask spread multiplied by 3 while having a redemption rate of 20% of the NAV	
Credit	Univariate	Asset defaults equivalent to 2-5% of assets	
	Univariate	Default of the principal counterparty combined with a downgrade of the ratings of assets within the portfolio	
	Multivariate	Default of 2 to 5% of the portfolio while having spreads going up by 150bp with a redemption rate of 20% of the NAV	

[116] With respect to the information on the "stress tests of the MMF" included in the reporting template, ESMA was of the view that at the consultation stage, it is necessary to suggest several options so that stakeholders can clearly indicate their preferred option(s). This does not mean that all these options will be retained in the final version of the reporting template (it might be the case that only one or several of these options is retained). The precise interaction between the Guidelines on stress testing and this reported field will also have to be considered further.

	Multivariate	Default of 2 to 5% of the value of the portfolio combined with an increase of short term interest rate of 50bp with a redemption rate of 20% of the NAV	
	(alternative univariate)	Parallel shifts of the credit spreads of a certain amount of all assets within the portfolio (e.g. 3 selected amounts, e.g. 25, 150 and 200 bps)	
	(alternative univariate)	Downgrade of the issuers of the 3 largest positions (scale of the downgrade to be defined)	
Rate	Univariate	Increase of the long term interest rates for sovereign bonds of 100bp increasing gradually to 250bp	
	Univariate	Parallel shifts of the interest curve of a certain amount (e.g. 150 to 200bps in increments of 25 bps or 3 selected amounts, e.g. 25, 150 and 200 bps)	
	Univariate	Increase of the FX rate (base currency vs other currencies) of 30%	
	Multivariate	1-month and 3-month treasury rates going up simultaneously by 50 basis points while assuming a redemption rate that could range between 10% to 30%	
	Multivariate	Matrix of interest rates / credit spread (25 bps / 100 bps / 150 bps in each case)	
Liability	Univariate	Redemption of 20% of the NAV and an opt-out option exercised by the five most important investors (or redemptions of 10%, 20% and 30% of the NAV)	
	Univariate	Largest historical repurchase event	
Spread	Univariate	Increase of the spread by 150 bp	

Macro	Univariate	GDP at -1% every year over 3 years	
	Multivariate	A) a scenario including a combination of the 3 following factors: i) a parallel shift in interest rate (x) ii) a shift in credit spreads (y) and iii) a redemption stress (z)) (factors to be defined)	
	Multivariate	B) a scenario including a combination of the 3 following factors: i) a parallel shift in interest rate (x) ii) a shift in credit spreads (y) and iii) a redemption stress (z)) Variables x, y and z being the worst figures/shifts experienced by the fund, on an independent basis, for the last 12 months.	
	Multivariate	Calibration of all risk factors based on observed trends 1 month after the fall of Lehman Brothers	
	Multivariate	PRA's calibration	

In terms of reporting standardized stress test results, given that the two main goals of the stress tests are to measure the impact of given shocks on the NAV and the impact on liquidity, both impacts should be reported. As there are different ways to carry out liquidity stress tests, and in order to get comparable results in the reporting, one way forward could be to assess the impact of the stress scenarios (where relevant) on the weekly liquidity of the portfolio assets. One could also consider including information on the impact of the stress test on WAM and WAL in the reporting, and for stable NAV MMFs the difference in bps between the CNAV and the shadow VNAV.

Draft guidelines on stress tests scenarios under Article 28 of the MMF Regulation[117]

1 Scope

Who?

1. These guidelines apply to: i) national competent authorities; and ii) money market funds and managers of money market funds as defined in the Regulation 2017/XX/EC of the European Parliament and of the Council on Money Market funds ('MMF Regulation').

What?

2. These guidelines apply in relation to the requirements of Article 28(7) of the MMF Regulation that reads as follows:

'ESMA shall issue guidelines with a view to establishing common reference parameters of the stress test scenarios to be included in the stress tests taking into account the factors specified in paragraph 1. The guidelines shall be updated at least every year taking into account the latest market developments'.

When?

3. These guidelines apply from [date of entry into force of the MMF Regulation + 1 year].

[117] With respect to the requirements on possible univariate or multivariate stress tests included in the proposed Guidelines, ESMA is of the view that at the consultation stage, it is appropriate to suggest several options so that stakeholders can clearly indicate their preference(s). This does not mean that all the options will be retained in the final version of the Guidelines (it may be the case that only one or several of these options will be retained).

In addition, the provisions of the ITS that relate to reporting of stress tests and the Guidelines are to some extent interdependent, so the final approach taken on one may have an impact on the approach taken in the other. Some approaches in the Guidelines that are currently optional may become mandatory.

2 Definitions

4. Unless otherwise specified, terms used in the Regulation 2017/XX/EC of the European Parliament and of the Council on Money Market funds have the same meaning in these guidelines.

3 Purpose

5. The purpose of these guidelines is to ensure common, uniform and consistent application of the provisions in Article 28(1) of the MMF Regulation. In particular, and as specified in Article 28(7) of the MMF Regulation, they establish common reference parameters of the scenarios to be included in the stress tests taking into account the following factors specified in Articles 28(1) of the MMF Regulation:

a) hypothetical changes in the level of liquidity of the assets held in the portfolio of the MMF;

b) hypothetical changes in the level of credit risk of the assets held in the portfolio of the MMF, including credit events and rating events;

c) hypothetical movements of the interest rates and exchange rates;

d) hypothetical levels of redemption;

e) hypothetical widening or narrowing of spreads among indexes to which interest rates of portfolio securities are tied;

f) hypothetical macro systemic shocks affecting the economy as a whole.

6. These guidelines will be updated at least every year taking into account the latest market developments. While updating these guidelines, ESMA will consider whether to amend the level of granularity of the requirements on the different risk factors, and the level of complexity of the overall proposed approach.

4 Compliance and reporting obligations

4.1 Status of the guidelines

7. This document contains guidelines issued under Article 16 of the ESMA Regulation. In accordance with Article 16(3) of the ESMA Regulation national competent authorities and financial market participants must make every effort to comply with guidelines and recommendations.

4.2 Reporting requirements

8. Competent authorities to which these guidelines apply must notify ESMA whether they comply or intend to comply with the guidelines, with reasons for non-compliance, within two months of the date of publication by ESMA to [email address]. In the absence of a response by this deadline, competent authorities will be considered as non-compliant. A template for notifications is available from the ESMA website.

5 Guidelines on stress tests scenarios under Article 28 of the MMF Regulation

5.1 Guidelines on certain general features of the stress test scenarios of MMF

Scope of the effects on the MMF of the proposed stress test scenarios

9. Article 28 of the MMF Regulation indicates that MMFs must put in place "*sound stress testing processes that identify possible events or future changes in economic conditions which could have unfavourable effects on the MMF*".

10. This leaves room for interpretation on the exact meaning of the "effects on the MMF", having in mind that different interpretations are possible (e.g. impact on the portfolio or net asset value of the MMF, impact on the volatility of the portfolio or net asset value of the MMF, impact on the liquidity bucket(s) of the MMF as referred to in Article 24 and following of the MMF Regulation, impact on the ability of the manager of the MMF to meet investors' redemption requests, impact on the the difference between the constant NAV per unit or share and the NAV per unit or share (as explictly mentioned in Article 28(2) of the MMF Regulation in the case of CNAV and LVNAV MMFs), impact on the ability of the manager to comply with the different rules specified in Articles 17 and following of the MMF Regulation.

11. The wording of Article 28(1) of the MMF Regulation is broad and should therefore include various possible definitions. In particular, the stress test scenarios referred to in Article 28 of the MMF Regulation should stress test the impact of the various factors listed

in Article 28(1) of the MMF Regulation on both i) the portfolio or net asset value of the MMF and ii) the liquidity bucket(s) of the MMF and/or the ability of the manager of the MMF to meet investors' redemption requests. This broad interpretation is in line with the stress-testing framework of the AIFMD, which includes both meanings in its Articles 15(3)(b) and 16(1). The specifications included in the following sections 5.2 to 5.7 therefore apply to stress test scenarios on both aspects mentioned above.

12. With respect to liquidity, it is to be noted that liquidity risk may result from: (i) significant redemptions; (ii) illiquid assets; or (iii) a combination of the two.

Historical scenarios and hypothetical scenarios

13. With respect to both stress test scenarios on i) the portfolio or net asset value of the MMF and ii) the liquidity bucket(s) of the MMF and/or the ability of the manager of the MMF to meet investors' redemption requests, managers could use the factors specified in sections 5.2 to 5.7 using historical and hypothetical scenarios.

14. Historical scenarios reproduce the parameters of previous crises and deduce the impact they would have had on the MMF.

15. While using historical scenarios, managers should vary the time windows in order to process as many scenarios as possible and avoid getting stress test results that depend overly on an arbitrary time window (e.g. one period with low interest rates and another with higher rates). By way of example, here are some commonly used scenarios: junk bonds in 2001, subprime mortgages in 2007, the Greek crisis in 2009 and the Chinese stock market crash in 2015. These scenarios may include independent or correlated shocks depending on the model.

16. One alternative approach to historical scenarios are hypothetical scenarios. Hypothetical scenarios are aimed at anticipating a crisis by setting its parameters. Examples of hypothetical scenarios include those based on economic shocks, particularly risk by country or business segment (e.g. bankruptcy of a sovereign state or crash in an industrial sector). This type of scenario may require the creation of a dashboard of all changed risk factors, a correlation matrix and a choice of financial behaviour model. It also includes probabilistic scenarios based on implied volatility

17. Such scenarios may be single-factor or multi-factor scenarios. Factors can be uncorrelated (fixed income, equity, counterparty, forex, volatility, correlation, etc.) or correlated: a particular shock may spread to all risk factors, depending on the correlation table used.

Aggregation of stress tests

18. In certain circumstances, managers could use aggregate stress test scenarios on a range of MMFs or even on all the MMFs managed by the manager. Aggregating results would provide an overview and could show, for example, the total volume of assets held by all

the MMFs of the manager in a particular position, and the potential impact of several portfolios selling out of said position at the same time during a liquidity crisis.

Reverse stress testing

19. In addition to the stress test scenarios discussed in this section, the inclusion of reverse stress testing may also be of benefit. The intention behind a reverse stress test is that the MMF would be subjected to stress testing scenarios to the point of failure, including the point where the regulatory thresholds set up in the MMF Regulation, such as those included in its Article 37(3)(a) would be crossed. This would allow the manager of a MMF to have another tool to explore any vulnerabilities, pre-empt, and resolve such risks.

Combination of the various factors mentioned in the following sections 5.2 to 5.7 with investors' redemption requests

20. All factors mentioned in the following sections 5.2 to 5.7 should be tested against several levels of redemption. This is not to say that at first, managers should not also test them separately (without combining them with tests against levels of redemption), in order to be able to identify the corresponding respective impacts. The way this combination of the various factors mentioned in the following sections 5.2 to 5.7 with investors' redemption requests could be carried out is further specified in each of these sections.

21. In that context, some hypothesis on the behaviour of the manager could be required.

22. A practical example of one possible implementation is given below. The table below estimates the losses incurred by the MMF in the event of redemptions or market stress (credit or interest rate shocks).

First scenario: credit premium shock of 25 bps

Second scenario: interest rate shock of 25 bps

			Three largest investors (25%) ↓							Very stable investors (15%) ↓
Redemptions	0%	10%	20%	30%	40%	50%	60%	70%	80%	90%
Initial portfolio			2 bps	3 bps	5 bps	6 bps	8 bps	9 bps	11 bps	12 bps

First scenario	7 bps	9 bps	13 bps	18 bps	24 bps	32 bps	45 bps	66 bps	110 bps	236 bps
Second scenario	3 bps	4 bps	6 bps	9 bps	12 bps	16 bps	21 bps	28 bps	38 bps	85 bps
WAL (days)	105	117	131	149	169	192	219	249	290	320

23. This stress test shows that a redemption by the three largest investors (25% of net assets) would push the weighted average life (WAL) beyond the 120-day regulatory threshold (for a short-term money market fund) and cause the portfolio to lose in the region of 2-3 bps under normal conditions. The same level of cumulative redemptions with a 25 bps rise in interest rates would cause a loss of around 13-18 bps.

Stress tests in the case of CNAV and LVNAV MMFs

24. Article 28(2) of the MMF Regulation indicates that in addition to the stress test criteria as set out in Article 28(1), CNAV and LVNAV MMFs shall estimate for different scenarios, the difference between the constant NAV per unit or share and the NAV per unit or share. While estimating this difference, and if the manager of the MMF is of the view that this would be useful additional information, it may also be relevant to estimate the impact of the relevant factors included in sections 5.2 to 5.7 on the volatility of the portfolio or on the volatility of the net asset value of the fund.

Non-exhaustiveness of the factors mentioned in the following sections 5.2 to 5.7 below

25. The factors set out in the following sections 5.2 to 5.7 are minimum requirements. The manager would be expected to tailor the approach to the specificities of its MMFs and add any factors or requirements that would be deemed to be useful to the stress test exercise. Examples of other factors that could be taken into account include the repo rate considering MMFs are a significant player in that market.

26. More generally the manager should build a number of scenarios, with different levels of severity, which would combine all the relevant factors (which is to say that there should not be only separate stress tests for each factor – please also refer to the following sections 5.2 to 5.7).

5.2 Guidelines on the establishment of common reference parameters of the stress test scenarios in relation to hypothetical changes in the level of liquidity of the assets held in the portfolio of the MMF

27. With respect to the level of changes of liquidity of the assets mentioned in Article 28(1)(a) of the MMF Regulation, managers could consider such parameters as the gap between the bid and ask spread, trading volumes or the number of counterparties in the market. This would reflect the fact that lack of liquidity of assets may result from secondary markets related issues, but may also be related to the maturity of the asset.

28. If managers consider the gap between the bid and ask spread, this should be multiplied by a factor, which could be of 4.

29. The manager could also consider a stress test scenario that would reflect an extreme event of liquidity shortfall due to dramatic redemptions that would combine liquidity stress test with a bid ask spread multiplied by 3 while having a redemption rate of 20% of the NAV.

5.3 Guidelines on the establishment of common reference parameters of the stress test scenarios in relation to hypothetical changes in the level of credit risk of the assets held in the portfolio of the MMF, including credit events and rating events

30. With respect to the levels of changes of credit risk of the asset mentioned in Article 28(1)(b), there should not be too prescriptive guidance on this factor because the widening or narrowing of credit spreads is usually based on market conditions that are quickly evolving.

31. However, managers could, for example, consider the downgrade or default of particular portfolio security positions, each representing various exposures in a MMF's portfolio. It could be assumed that the counterparty comprises either 2% of the commercial paper held in the portfolio, or 5%. Managers could also consider the default of the biggest position of the portfolio combined with a downgrade of the ratings of assets within the portfolio. Managers could also consider parallels shifts of the credit spreads of a certain amount of all assets within the portfolio (e.g. 3 selected amounts of 25, 150 and 200 bps).

32. With respect to such stress tests involving the levels of changes of credit risk of the asset, it would also be relevant to consider the impact of such stress tests on the credit quality assessment of the corresponding asset in the context of the methodology described in Article 19 of the MMF Regulation.

33. The manager could also consider a stress test scenario that would reflect an extreme event of stress due to uncertainty on the solvency of market participants, which would lead to increased risk premia and flight to quality. This stress test scenario would combine default of 2 to 5% of the portfolio while having spreads going up by 150bp with a redemption rate of 20% of the NAV.

34. The manager could also consider a stress test scenario that would combine a default of 2 to 5% of the value of the portfolio combined with an increase of short term interest rates of 50bp with a redemption rate of 20% of the NAV.

5.4 Guidelines on the establishment of common reference parameters of the stress test scenarios in relation to hypothetical movements of the interest rates and exchange rates

35. With respect to the levels of change of the interest rates and exchange rates mentioned in Article 28(1)(c) of the MMF Regulation, managers could consider stress test of parallel shifts of a certain amount (e.g. 150 to 200bps in increments of 25 bps or 3 selected amounts, e.g. 25, 150 and 200 bps). More specifically, managers could consider:

i. an increase in the level of short term interest rates with 1-month and 3-month treasury rates going up simultaneously by 50 bps while assuming a redemption rate that could range from 10% to 30%;

ii. an increase of the long term interest rates for sovereign bonds by 100 bps increasing gradually to 250bps[118];

iii. a shift in the interest rate curve that would change both short/medium/long interest rate;

iv. increase of the FX rate (base currency vs other currencies) of 30%.

36. The manager could also consider a stress test scenario that would reflect an extreme event of increased interest rates that would combine an increase of the short-term interest rates by 30bps while having a redemption rate that could range between 10-30%. The manager could also consider a matrix of interest rates / credit spread (25 bps / 100 bps / 150 bps in each case).

5.5 Guidelines on the establishment of common reference parameters of the stress test scenarios in relation to hypothetical levels of redemption

37. With respect to the levels of redemption mentioned in Article 28(1)(d) of the MMF Regulation, managers could consider redemption stress tests with the redemption being the maximum of either 20% of the NAV or an opt-out option exercised by the five most important investors (or redemptions of 10%, 20% and 30% of the NAV).

[118] Between 2014 and 2016, the bond yield shocks ranged from 82 basis points in Germany to around 230 basis points in Greece. On average for the EU and the euro area, the shock is about 150 basis points over 2014 and around 110 basis points in 2015-16.

38. Stress tests on redemptions should include the specific rules on liquidity of the MMF (gates, redemption notice etc).

39. The simulation of redemptions should be calibrated based on stability analysis of the liabilities (i.e. the capital), which itself depends on the type of investor (institutional, retail, private bank, etc.) and the concentration of the liabilities. The particular characteristics of the liabilities and any cyclical changes to redemptions would need to be taken into account when establishing redemption scenarios. However, there are many ways to stress liabilities and redemptions. Examples of significant redemption scenarios include i) redemptions of a percentage of the liabilities (typically between 20% and 50%) ii) redemptions equal to the largest redemptions ever seen iii) redemptions based on an investor behaviour model.

40. Redemptions of a percentage of the liabilities (typically between 20% and 50%) could be defined based on the frequency of calculating the net asset value, any redemption notice period and the type of investors.

41. It is to be noted that liquidating positions without distorting portfolio allocation requires a technique known as slicing, whereby the same percentage of each asset type (or each liquidity class if the assets are categorised according to their liquidity, also known as *bucketing*) is sold, rather than selling the most liquid assets first. This is to be taken into account when processing such stress tests (if, on the contrary, the stress test assumes a waterfall approach (i.e. selling most liquid assets first), this should be specified).

42. In the case of redemption of units by the largest investor(s), rather than defining an arbitrary redemption percentage as in the previous case, managers could use information about the investor base of the MMF to refine the stress test. Specifically, the scenario involving redemption of units by the largest investors should be calibrated based on the concentration of the fund's liabilities and the relationships between the manager and the primary investors of the MMF (and the extent to which investors are deemed volatile).

43. Managers could also stress test scenarios involving redemptions equal to the largest redemptions ever seen in a group of similar (geographically or in terms of fund type) MMFs or across all the funds managed by the manager. However, the largest redemptions witnessed in the past are not necessarily a reliable indicator of the worst redemptions that may occur in the future.

<u>Example</u>

Redemptions based on an investor behaviour model, in accordance with the breakdown of liabilities by investor category, imply the simulation of the behaviour of each type of investor and establishes a simulation based on the composition of the liabilities of the MMF.

Example of investor classification and simulation of their behaviour (the	Record redemptions for this investor type

figures shown are not real):

Investor type	Over one day	Over one week	Over one month
Large institutional	25%	75%	100%
Group entity (bank, insurance, own account)	20%	40%	40%
Investment fund	20%	65%	100%
Small institutional	10%	25%	40%
Private banking network	15%	40%	75%
Retail investor with distributor A	5%	10%	20%
Retail investor with distributor B	7%	15%	20%

	Stressed redemptions for this investor category
Large institutional	75%
Group entity (bank, insurance, own account)	0% (in agreement with the AMC)
Investment fund	65%
Small institutional	25%
Private banking network	40%
Retail investor with distributor A	10%
Retail investor with distributor B	15%

In order to build such a simulation of this kind, the manager needs to make assumptions about the behaviour of each investor type, based in part on historical redemptions. In the example above, the manager has noted that the retail investors who invested through distributor A are historically slower to exit in the event of difficulty, but that they exhibit the same behaviour over one month as retail investors who invested through distributor B. This fictitious example shows a possible classification that the manager may use based on the data available on the liabilities of the MMF and the behaviour of its investors.

5.6 Guidelines on the establishment of common reference parameters of the stress test scenarios in relation to hypothetical widening or narrowing of spreads among indexes to which interest rates of portfolio securities are tied

44. With respect to levels of widening or narrowing of spreads among indexes to which interest rates of portfolio securities are tied as mentioned in Article 28(1)(e) of the MMF Regulation,

managers could consider the widening of spreads in various sectors to which the portfolio of the MMF is exposed, in combination with various increase in shareholder redemptions.

45. Managers could consider a widening of spreads going up by 150bp.

5.7 Guidelines on the establishment of common reference parameters of the stress test scenarios in relation to hypothetical macro systemic shocks affecting the economy as a whole

46. With respect to the identification of macro-systemic shocks affecting the economy as a whole mentioned in Article 28(1)(f) of the MMF Regulation, there should not be prescriptive guidance on this item because the choice of hypothetical macro systemic shocks will depend to a large extent on the latest developments in the market.

47. However, ESMA is of the view that managers could use an adverse scenario on the GDP (e.g. -1% GDP during 3 years). Managers could also replicate macro systemic shocks that affected the economy as a whole in the past, such as the Lehman Brothers bankruptcy event.

48. The manager could also consider a global stress test scenario that could be designed in several ways:

i. the Lehman Brothers' event with the calibration of all relevant factors one month ahead of the failure of this firm;

ii. PRA's calibration of global stress test (as referred to in the PRA calibration[119]);

iii. A) a scenario including a combination of the 3 following factors: i) a parallel shift in interest rate (x) ii) a shift in credit spreads (y) and iii) a redemption stress (z));

iv. B) a scenario including a combination of the 3 following factors: i) a parallel shift in interest rate (x) ii) a shift in credit spreads (y) and iii) a redemption stress (z)) Variables x, y and z being the worst figures/shifts experienced by the fund, on an independent basis, for the last 12 months.

[119] http://www.bankofengland.co.uk/financialstability/Documents/stresstesting/2016/tradedrisk2016.xlsx