STATE STREET GLOBAL ADVISORS

20 April 2021

State Street Global Advisors
1 Iron Street
Boston
MA 02210
United States

ssga.com

International Organization of Securities Commissions
Oquendo 12
28006 Madrid
Spain

Submitted via email to: LRM-MPSurvey@iosco.org

Re: Thematic Review of IOSCO Liquidity Risk Management Recommendations and IOSCO-FSB Analysis of Open-Ended Fund Liquidity during the Market Stresses of 2020

Dear Sir/Madam:

State Street Global Advisors (SSGA) welcomes the opportunity to provide input on the International Organization of Securities Commissions' (IOSCO's) survey of market participants regarding the implementation of IOSCO's Liquidity Risk Management (LRM) Recommendations and market participants´ responses to the COVID-19 induced market stresses in 2020. State Street Global Advisors is the investment arm of State Street Corporation[1] and, with $3.6 trillion in assets under management[2] , as of March 31, 2021, is one of the largest asset managers in the world. For more information, please visit SSGA's website at www.ssga.com.

SSGA has established a comprehensive and integrated framework to both monitor and manage liquidity risk, utilizing various tools and metrics available across our range of portfolios, to ensure we maintain a holistic approach. We apply this approach throughout the lifecycle of our funds including, importantly, during the product design phase. The monitoring undertaken by the SSGA Liquidity Risk team includes key liquidity risk measures, such as Liquidity Coverage Ratio (LCR), and stress testing. In the event that issues are highlighted, procedures are in place to identify and agree upon any remedial action that should be taken. Furthermore, detailed contingency plans are in place, with

[1] Headquartered in Boston, Massachusetts, State Street Corporation is a global custodian bank which specializes in the provision of financial services to institutional investor clients. This includes the provision of investment servicing, investment management, data and analytics, and investment research and trading. With $40.3 trillion in assets under custody and administration, and approximately $3.6 trillion of assets under management, State Street operates in more than 100 geographic markets globally as of March 31, 2021. State Street is organized as a United States bank holding company, with operations conducted through several entities, primarily its wholly-owned state-chartered insured depository institution, State Street Bank and Trust Company.

[2] Assets under management as of March 31, 2021 includes approximately $60 billion of assets with respect to SPDR® products for which State Street Global Advisors Funds Distributors, LLC (SSGA FD) acts solely as the marketing agent. SSGA FD and State Street Global Advisors are affiliated.

liquidity management tools, that can be employed as deemed necessary, in both normal market conditions and during periods of market stress.

With regards to our experience during the market volatility in March and April 2020, we believe this has provided affirmation that our framework and the liquidity 'playbooks' we have developed are largely fit for purpose and we have seen no need to amend or update any of the key elements or underlying assumptions. In particular, we would emphasize that our approach is fully independent of the actions taken by other fund managers and is not predicated on any expectation of support by public authorities. During the market stress, SSGA made extensive use of ordinary liquidity management tools, including swing pricing in Europe. While we did also make very limited use of more exceptional tools, this decision was driven by exogenous factors such as concerns regarding valuation by independent third-party valuers.

Please find below more detailed responses to the two sections of the IOSCO survey. Should you wish to discuss any aspect of our response, please do not hesitate to contact me or a member of my team. I would like to express our appreciation for the collaborative approach taken by IOSCO on this topic to date and, in particular, seeking to understand the approach taken by fund managers during the pandemic-related market stress.

Yours sincerely,

//s// SEBASTJAN SMODIS

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Sebastjan Smodis, CFA, CRM

Global Head of Equity, ETF and Liquidity Risk Management

State Street Global Advisors

Responses to Specific Sections/Questions of the Survey

II. IOSCO's Assessment of the 2018 Liquidity Risk Management Recommendations

SSGA has in place a detailed, comprehensive framework and set of procedures in order to both monitor and manage liquidity risk across our funds, and which form part of our first and second lines of defense. Our independent Risk Management function performs risk monitoring and analysis of all portfolios and maintains an ongoing dialogue with portfolio managers and other relevant stakeholders, to ensure the risks across these portfolios do not exceed appropriate levels. With regards to liquidity risk management (LRM) in particular, the framework utilizes a variety of risk models and metrics, quantitative tools and qualitative methods, to ensure we maintain a holistic view. In addition, the Risk team will frequently circulate liquidity risk reports and engage in specific discussions on various aspects, as and when necessary, in regular risk review meetings.

Within the Risk Management function, the dedicated Liquidity Risk team analyses a variety of liquidity risk factors for each portfolio. Examples of such factors include those related to volume, maturity, trading costs, turnover, volatility and historically stressed market environments. Moreover, the Liquidity Risk team conducts regular fund level liquidity risk monitoring and reporting based on the following key risk measures:

1. Asset Liquidity Risk:

- Estimated percentage of a fund's net asset value (NAV) that can be liquidated and made available to investors as cash over a specified time period, at an acceptable discount to fair value, or liquidation cost.
- Liquidity classification and analysis of estimated percentage of a fund's net asset value (NAV) across days to liquidate buckets.
- Estimated liquidation cost when liquidating a predetermined percentage of a fund's assets in a defined time period.

2. Funding Liquidity Risk (pooled funds):

- Funding liquidity risk is defined as the estimated percentage of a fund's holdings that could be redeemed in a defined time period (based on historical redemption patterns and investor concentration). In open-ended funds, it is crucial to monitor whether the fund can meet estimated redemption requests without significantly impacting – or diluting – the holdings of remaining investors.

3. Stress Testing:

- Our LRM process also undertakes stress testing by subjecting the funds to both historical stress scenarios and hypothetical stress scenarios, depending on the asset class. The stress tests flag up the consequences of, or conditions that might lead to,

extreme scenarios, highlighting risks that may not have been taken into account by the investment team.

i. **Historical scenarios:** these are used to estimate how the liquidity of the current fund could deteriorate if subjected to market and liquidity dislocations like that which occurred during a selected historical period. These scenarios, at a minimum, cover periods such as the Global Financial Crisis (October 2008), the European Debt Crisis (August 2011), the Flash Crash (May 2010) and the most recent COVID-19 (2020) market turmoil.

ii. **Hypothetical scenarios:** are used to measure the potential impact of market shifts, correlation changes, and stress redemptions that may be relevant currently but that did not necessarily occur historically. Such scenarios can involve shocking liquidity of certain fund holdings to assess the impact on overall fund liquidity.

4. Estimated Liquidity Coverage Ratio (LCR):

- The LCR is a crucial measure, bringing together asset and funding liquidity risk to estimate whether an open-ended fund has adequate sources of liquidity – that is, liquid assets that can be quickly converted into cash – to cover liquidity needs, such as investor redemptions, in normal or stressed market environments.
- The LCR can also be expressed as:

$$\textbf{LCR} = \frac{\text{Est.\% of portfolio's assets that could be liquidated in a given period}}{\text{Est.\% of portfolio that could be redeemed in a given period}} \geq 1 \ (\textit{or other specified limit})$$

In the event that a potential risk issue is identified, the SSGA Risk team will initially undertake a discussion with the Portfolio Management team, including on whether any potential mitigating actions are required. Additionally, liquidity risk exposures are also regularly reported to SSGA Senior Management and the Liquidity Committee. Where necessary and appropriate, there may also be notifications to our investors.

Furthermore, SSGA has well-established and robust contingency plans that will guide the actions of Investment teams in both normal market conditions and during periods of potential market volatility, including the potential use of liquidity management and mitigation tools (LMTs). In this regard, portfolio managers have a variety of LMTs available to them, including:

- anti-dilution measures (including swing pricing);
- in-kind redemption;
- settlement delay;

- redemption limits;
- NAV suspension; and
- gating.

The use of these tools is subject to careful review and approval by a rigorous internal governance process. It is worth highlighting that only a subset of the possible tools listed above may be available based on several fund factors, including region and legal structure. With regards to the EU, SSGA is strongly supportive of efforts to increase and harmonize the availability of LMTs across all Member States; we understand this is being considered in the context of the upcoming legislative review of the EU Alternative Investment Fund Managers Directive (AIFMD).

An important aspect of SSGA's approach to LRM is the product design phase, which can facilitate the avoidance of unexpected liquidity challenges throughout the lifecycle of the fund. An important first step to mitigating liquidity risk is to undertake a detailed and granular assessment of the liquidity of the fund's investments and selecting an appropriate dealing frequency. During the product design of a new fund at SSGA, the Product, Investment and Risk teams will examine the liquidity of the underlying securities in different market environments to understand how the liquidity profiles may change over time and what impact that may have on the liquidity of the fund itself.

In addition to understanding the relevant liquidity risk, this enables us to manage investor expectations accordingly and is crucial in our consideration of whether the fund is suitable for clients going forward. We may also tailor our approach and take further steps, depending on the nature of the fund – for example, SSGA performs additional stress testing and analysis on the less liquid equity and fixed income instruments, such as emerging market and credit securities. This ensures that both the funds' index and the investment processes are sufficiently robust for all market cycles. Moreover, as a leading provider of passive investment funds, SSGA will also work with index-providers, to ensure that the benchmarks being tracked remain investable and, where necessary, uses screens within the index methodology to help remove the least liquid constituents from the investable universe.

III. Joint IOSCO-FSB Analysis of OEF Liquidity during the Market Stresses of 2020

1. **(Recommendation 1) Have you updated (or are you planning to update) your liquidity risk management processes (e.g., applicable liquid and illiquid instrument thresholds, portfolio analysis, monitoring) since the onset of the COVID-19 crisis? If yes, which areas of your liquidity risk management processes were updated, and were the changes due to your experiences in March and April?**

   The extreme market volatility during March and April 2020 resulted in significant dislocations, temporary shortages of liquidity and valuation issues in parts of the market. In our view, SSGA's LRM process, which included proactive contingency planning to support businesses, undertaking daily risk reviews with portfolio managers and proactive communication with clients, proved to be effective in managing the extreme market stress conditions. The back-testing of our estimated redemptions model has seemingly confirmed its accuracy and robustness. As such, the experience during March and April has largely validated our framework as being fit for purpose and therefore, foundationally, our approach hasn't changed substantively. However, we have developed and incorporated in our LRM framework additional stress testing scenarios, to ensure we are prepared for any repeat of the redemption pressures during the peak of the turmoil; more specifically, we have incorporated the COVID-19 scenario into our estimated redemption model, to account for the market volatility on the back of realized fund flows from February 2020 - April 2020.

   Notwithstanding the above and while our liquidity risk monitoring metrics were broadly effective in recognizing the increasing costs to liquidation, an area where we see room for improvement for liquidity models is determining the time to liquidation during extreme market stress that can result in excessive liquidation costs, particularly for corporate bonds and certain money market instruments. We note that this is an industry-wide challenge and particularly pertinent in the context of 'black swan' events, given the reliance of widely used liquidity classification metrics, tools and services based on historical data and assumptions.

2. **(Recommendation 3) For each of the primary investment strategies or asset classes of the funds you manage (e.g. large/small cap equity, investment grade/high yield corporate/emerging market/municipal/government bonds, absolute return), what is the dealing frequency of those funds?**

   The majority of SSGA's pooled funds investing in liquid markets are daily dealing. This also applies to our SPDR range of exchange-traded funds (ETFs), for which daily subscriptions and redemptions continued during the COVID-19 induced market stress in 2020.

However, there are a subset of SSGA's funds which have a different dealing frequency, based on either the liquidity of the underlying assets, for example direct property funds, or the investment strategy/investor type, for example Liability Driven Investing.

3. **(Recommendation 3) Did you change or are you currently planning to change the dealing frequency of certain funds (e.g., certain investment strategies or asset classes) due to the market events in March and April (or thereafter)? If yes, can you please provide more detail on why, including the newly implemented approaches?**

   SSGA has not and is currently not intending to amend the dealing frequency across our existing funds.

4. **(Recommendation 12) Please describe the process by which you estimate future redemption demand and use these estimates to adjust a fund's level of cash and cash-equivalent holdings.**

   At SSGA, the Investment Management team will closely engage with the liquidity risk management programs, including with respect to LCRs, stress testing etc. We adopt a more holistic approach than just observing a fund's cash levels – as noted in other parts of our response, there is a potential risk impact of holding cash and, as such, we consider and manage liquidity risk from the perspective of the liquidity of the complete portfolio.

5. **(Recommendation 12) During the market events in March and April, please describe whether funds experienced large redemptions or net cashflow pressures and if so, what types of funds (e.g., certain investment strategies or asset classes) experienced the greatest pressures.**

   a) **What were the main drivers of those pressures?**

   The pandemic caused a near-total global economic shutdown, resulting in an unprecedented demand for liquidity and a general flight to safety by market participants. We observed material outflows from fixed-income products, particularly in corporate and credit, aggregate, government and high-yield bonds. The high volumes and high redemptions drove both volatility and liquidation costs.

   Looking at specific fund types, while the ETF sector largely performed as expected, certain ETFs were trading at significant discounts to their NAV, as a consequence of large selling pressures, challenges in valuation of underlying securities and changes to Authorised Participants' risk tolerances, particularly with regards to maintaining large inventories. In addition, there were significant outflows from Prime Money Market

Funds (MMFs). In this context, investors were highly sensitive to the potential imposition of fees and gates, should the MMF drop below its required weekly liquid assets (WLA) threshold. Evidence from the market stress suggests that funds that approached the minimum 30% WLA threshold faced heightened outflows, although no fund ultimately utilized fees and/or gates. As policymakers consider further potential reforms to MMFs, we believe this is one aspect of current MMF regulation that may be worth reviewing and considering whether the provisions operated as intended.

b) Did redemption pressures differ between funds that are open only to (i) institutional or (ii) retail investors?

Based on our experience and observations, it appears that institutional investors reacted and took action more quickly in response to the severe market volatility.

c) For funds that are open to both groups of investors:

- **Which group redeemed more shares as a proportion of shares outstanding?**
- **Which group redeemed more shares as a proportion of shares owned by the group?**

6. **(Recommendation 12) What liquidation approach(es) did you apply to honour larger redemptions (pro-rata allocation, liquidation waterfalls, using cash buffers, combination of approaches (and which, if so))? In what ways, if any, did market conditions (including the actions of other fund managers) change your approach to liquidating assets or alter your planned liquidity waterfall?**

Pro-rata liquidation was used wherever possible to keep fund characteristics intact and prevent dilution of the remaining investors in any way. Higher liquidation costs were allocated to transacting clients to prevent dilution of the remaining investors plus in-kind redemptions were utilized in some cases.

SSGA's approach to LRM is dictated by various factors, underpinned by ensuring fair outcomes for redeeming and remaining investors alike. This remains independent of actions taken by other fund managers.

7. **(Recommendation 12) What steps did you take, if any, to alter fund allocations to cash with a view to meeting future cash flow needs?**

The approach taken in this regard will typically depend on the specific asset class. As a general point, when funds seek to raise cash proactively there are potentially

significant challenges, notably that a change in the market risk environment could lead to a material impact on performance. More specifically, liquidity held in the fund needs to be balanced with the primary investment objective.

As an example, for SSGA's suite of index funds, we seek to track the index and have risk exposures similar to the indices, which means that although we may run marginally more liquidity than usual in more volatile environments, we would also want to maintain a similar exposure to the index. For MMFs, we have more flexibility regarding the term of the investments we invest in – as such, during March 2020, in general, we prioritized maintaining a higher percentage of the portfolio invested in daily maturing assets than usual, in order to maintain liquidity in the funds.

For certain funds, in the event there is an exceptional need to generate cash, we can make use of other various measures e.g. notice periods or, in truly exceptional periods, to defer redemptions. While SSGA employed some of these measures during the market stress in 2020 for one of its quarterly-dealing property funds, we would emphasize this was motivated by significant challenges regarding valuation, rather than due to concerns related to the level of readily available liquidity in the fund.

8. **(Recommendation 12) Do the funds you manage take positions in derivatives? If so:**
   - **How do you estimate the size of potential margin calls during stressed market conditions? What information do you use to do this?**
   - **What liquid assets do you use to meet potential margin calls? What liquidation waterfall do you use to meet margin calls if liquid assets are insufficient?**

   No comment.

9. **(Recommendation 16) Did you apply contingency plans due to the market events in March and April? Do you have a structure/ set a sequence for the implementation of liquidity risk management tools, or do you analyse the appropriateness of tools case-by-case depending on the specific circumstances?**

   SSGA has developed and put in place Liquidity Risk Playbooks (Playbooks), which constitutes one aspect of our LRM framework. The Playbooks focus on contingency planning to support Portfolio Management teams and protect investors in open-ended funds during stressed liquidity conditions. The Playbooks describe, put a structure on and streamline complex decision-making processes in stylized matrices that include liquidity management tools, roles, decision rights and escalation protocols. Tools used in the Playbooks include exceptional liquidity measures such as settlement delay,

gating or NAV suspension. These resources are designed to help Investment and Operations teams utilize identified liquidity tools based on pre-determined decision rights, product legal provisions and disclosure requirements.

Several tools highlighted in the playbooks were used during the market events of March and April, subject to fund-governing documents and local law restrictions depending on the severity of the liquidity challenge.

10. (Recommendation 17) Please describe the liquidity management tools[3] (i) that were available to your funds during March and April (or thereafter) and (ii) (a) that were activated during the market events in March and April and (b) the length of time during which they applied. Please specify in your response which tools were available and activated by fund type and asset class, if applicable. Also, briefly describe what motivated your decision to act and what factors influenced your choice of which tool(s) to activate. If you did not activate a liquidity management tool, can you briefly describe why not (e.g., ordinary fund liquidity management practices were sufficient, competitive pressures discouraged activation, operational challenges made activation difficult).

Were any liquidity management tools used during the ordinary course of business as opposed to solely during stressed market conditions? If so, please specify the liquidity management tool, explain the reasons why, and identify any operational challenges you may have encountered.

Across the jurisdictions in which SSGA operates, we made use of various available liquidity management tools – this includes the following:

- Where available, funds continued to use swing pricing that was reviewed and adjusted more frequently;
- Certain commingled funds switched to Cash Actual Anti-Dilution Levies (ADL), or increased significantly ex-ante ADL, to reflect increased liquidation and other transaction costs;
- In fixed-income, credit and mortgage-backed securities (MBS) sectors, several LRM tools were used, such as market effect and in-kind redemptions, to manage liquidity across daily dealing open-ended mutual funds.
- Where permissible and operationally feasible, bond ETFs enforced in-kind mechanism for large redemptions;

[3] Liquidity management tools could include, for example, suspensions of redemptions, swing pricing, lines of credit, inter-fund lending arrangements, anti-dilution levies, side pockets, redemption fees, redemption gates, and redemptions in-kind, among others. For further examples, *see* the Good Practices, *available at* https://www.iosco.org/library/pubdocs/pdf/IOSCOPD591.pdf.

- In APAC, the closure of markets in the Philippines led to one Bond ETF to use redemption limits and also the temporary suspension of dealing by one index equity fund, in line with regular procedures in case of market closures impacting significant percentage of fund's NAV
- For an EMEA property fund, we suspended the NAV production and unit-dealing, due to the introduction of material market uncertainty clauses by independent external valuers (this is common to property funds and applied industry-wide);

11. **(Recommendation 17) Based on your experience in March and April, to what extent did the application of liquidity risk management tools have a deterring effect, if any, on the investors´ intention to redeem?**

    In particular:

    a) Was there a reduction in redemption requests as a result of utilising a liquidity management tool (i.e., was a tool useful in discouraging an increase in investor redemptions)? Please be as specific as possible in terms of the impact of the individual tools (e.g., implementing swing pricing reduced redemption requests) and why you believe it may have been effective;

    b) Were investors notified of a liquidity risk management tool being activated (and if so, in what way);

    All existing specific liquidity management tools and mechanisms — for example, gating and payment in kind — are documented and transparent to investors.

    c) Did the use of liquidity management tools such as swing pricing or anti-dilution levies prevent the use of more prescriptive tools such as gating or suspensions;

    d) Specifically, if you implemented swing pricing during the market events in March and April, did you encounter any operational challenges when activating this tool? If yes, what were these challenges and how did you overcome them? and

    e) Did you observe any unanticipated effects of applying a particular tool (either positive (e.g., mitigating liquidity demands at affiliated funds) or negative (e.g., exacerbating liquidity demands or otherwise causing the fund to incur costs))?

12. **(Recommendation 17) During the market events in March and April, did you encounter any difficulties regarding valuation of the underlying assets of your funds related to your liquidity risk management processes to help ensure that investors redeem at a price that does not harm remaining investors?**

    Did you amend any applicable valuation methods (e.g., from mark-to-market to fair valuation or from mid-market to bid-market pricing)? Please briefly describe any difficulties and amendments, including whether such items were more applicable to any specific asset class. Do the same valuation policies/methodology apply among funds managed by your firm and that invest in similar asset classes?

    The Valuation Committees have valuation oversight responsibilities of the products managed within SSGA. The extreme volatility experienced in March and April 2020 led to a significant rise in number of valuation monitoring exceptions, particularly in the fixed-income space. One challenge was the difficulty in obtaining and processing the information from pricing vendors on a daily basis. The Valuation Committees held multiple discussions with vendors to take in their inputs and insights on pricing trends and valuation issues.

    Another issue arose through the introduction of material market uncertainty clauses by independent external valuers across large portions of property investments in EMEA.

    Challenges were also observed in ADL mechanisms during the stress period, which became critical when market volatility was at its peak. Several dislocations related to pricing, again particularly regarding fixed-income securities, led to the daily cash outflows thresholds lowered to control the higher costs. The process, albeit effective, was onerous and time consuming.

13. **(Recommendation 17) Did stressed market conditions in March and April give reason to change policies regarding liquidity risk management tools (e.g., swing pricing, anti-dilution levies, redemption fees, notice periods) aimed at treating redeeming and remaining investors fairly?**

    If yes, please briefly describe what policies and/or tools were adjusted and what the adjustment was.

    Limited policy changes were made following the market conditions in March and April 2020. More specifically, given the attention on MMFs during the turmoil, the Playbooks were enhanced with more information on applicable LMTs, providing further guidance on procedures that would be followed during stressed market conditions. Secondly, governance around the NAV suspension decision making process was enhanced.

14. **(Recommendation 17) Would you consider, based on your experience from the COVID-crisis, the necessity for further guidance from authorities on liquidity management tools and their usage? If yes, on what specific aspects would you like to have further guidance?**

    In general, we believe the current regulatory framework regarding LMTs and their use is broadly sufficient, and we do not see a need for further guidance. We believe this is reflected by the fact that, despite the severity of the market volatility in March and April 2020, only a small fraction of funds deemed it necessary to make use of exceptional LMTs. This also applies to MMFs, which are currently subject to significant scrutiny by policymakers; despite the outflows, all investor redemptions from MMFs were met in full and no fund imposed fees and/or gates.

    We would like to highlight that we fully support comments from certain policymakers (e.g. the European Securities and Markets Authority) that the decision to activate LMTs and the specific tool to be used should, in the first instance, be at the discretion of the fund. Furthermore, we would discourage any proposals to put in place a pre-ordained hierarchy for use of LMTs, which would ultimately limit the options of the manager to respond to the specific circumstances and act in the best interests of the fund and its investors. Notwithstanding this, in the context of the experience in Europe, we support efforts to improve the availability of LMT across all EU Member States and believe ensuring a harmonized approach in this regard should take precedence over consideration of whether the current toolkit should be augmented with additional measures and tools.

15. **(Recommendation 17) In what ways, if any, did the events and policy responses in March and April 2020 change your assumptions about the likelihood of central bank support in future periods of stress?**

    While the period of March and April was an exceptional 'black swan' event, and the rapid response from policymakers was very helpful, it has not fundamentally changed our perspective. Our use of LMT is not predicated on the assumption that central banks will intervene in financial markets.