MEMORANDUM OF UNDERSTANDING BETWEEN THE BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM and THE AUTORITE DES MARCHES FINANCIERS OF FRANCE

CONCERNING THE COOPERATION AND THE EXCHANGE OF INFORMATION RELATED TO MEMBERSHIP IN THE CENTRAL COUNTERPARTY, LCH.CLEARNET SA, AND IN THE CENTRAL SECURITY DEPOSITARY EUROCLEAR FRANCE AND PARTICIPATION IN THE SECURITIES SETTLEMENT SYSTEM OPERATED BY EUROCLEAR FRANCE, ESES FRANCE

Background

1. The Northern Trust Company has applied to become a member of the French central depository Euroclear France and a participant in the securities settlement system operated by Euroclear France, ESES France.

2. Euroclear France (the "CSD") is a central security depository and a security settlement system located in France and is supervised by the Autorité des Marchés Financiers ("AMF").

3. LCH.Clearnet SA (the "CCP") is a central counterparty located in France and is supervised by the AMF.

4. In the future, other EU branches of US banks may apply to become a participant in the CSD or the CCP.

5. The Board of Governors of the Federal Reserve System ("FED") understands from the AMF that, as per French law (Articles L.330-1 and L. 440-2 of the French monetary and financial code) and AMF general regulation (Articles 550-1-1, 560-1-1 and 541-16), the membership/participation in the CSD and the CCP is subject to the AMF's prior approval.

6. As a condition to granting an authorization, AMF must ensure that members/participants in the CCP and in the CSD are subject to rules of exercise and control of these activities equivalent to those prevailing in France, and that the participant's home competent authorities agree to exchanges of information with AMF.

General Provisions

7. Within the framework of this Memorandum of Understanding ("MOU"), the FED and the AMF, each an authority or together the authorities, will provide each other the fullest cooperation permissible under their national law in relation to the Participants' (as defined in paragraph 11 below) membership in the CCP or the CSD.

8. This MOU is being signed in the context of the supervision of the CCP and of the CSD and is consequently not intended for enforcement purpose. This MOU does not create any

legally binding obligations, confer any rights, or supersede domestic laws.

9. This MOU is not intended to supersede or amend, and shall be without prejudice to, the provisions of any other existing bilateral or multilateral memoranda of understanding signed by the FED or AMF dealing with cooperation and exchange of information for supervisory and enforcement purposes.

10. To facilitate cooperation under this MOU, each authority hereby designates contact persons as set forth in appendix I.

11. Given that this request may be followed by others, the list of entities subject to this MOU in appendix II may be revised upon a written approval of the authorities. For the purposes of this MOU, "Participants" will refer to The Northern Trust Company and other entities that may be listed in appendix II.

Authorization, regulation and supervision of participants

12. In order to support the above mentioned application, the FED, in its capacity as the consolidated home competent authority of the Participants, confirms that the Participants are authorized, regulated and supervised by the FED, as described below:

- each Participant is an entity within a banking group subject to consolidated supervision by the FED;

- the FED is vested with regulatory and supervisory powers over each such banking group having regard to the objectives of stability and containment of systemic risks, in accordance with the Dodd-Frank Wall Street Reform and Consumer Protection Act and other relevant law;

- the FED is vested with regulatory and supervisory powers over each such banking group, having regard to the objectives of safety and soundness, in accordance with the Bank Holding Company Act and other relevant law.

Exchange of information

13. Each authority will provide, with or without prior request, the other authority with information, as outlined in paragraph 14 below, that it considers is likely to be of assistance to the other authority in securing compliance with laws and regulations applicable in their jurisdiction in relation to the Participants' membership in the CCP or the CDS.

14. Scope of assistance

The authorities intend to exchange information related to the membership and the participation of the Participants in the CCP or the CSD, which shall include, inter alia, the provision of available information (either on an authority's own initiative or at an authority's request) on events which would be likely to have a significant effect on a Participant's membership in the CCP or the CSD, such as any insolvency proceedings, significant irregularities of conduct, operational violations, any event related to the capacity and honorability of its senior management, board or shareholders, a failure to meet financial, organizational or operational regulatory requirements, the appointment of an administrator, material sanctions or disciplinary actions levied or taken against the Participant, and other facts or issues which could affect the authorization, operation or proper conduct of the Participant and/or the smooth functioning of the services and/or the systems operated by it.

15. Unsolicited assistance

Each authority will endeavor to promptly provide, without prior request, the other authority with any information that it considers is likely to have a significant detrimental effect on the Participant's membership in the CCP or in the CSD, particularly an insolvency proceeding opening or any proceeding of the same nature

16. Requests for assistance

In addition, requests for assistance should be made in writing and addressed to the person identified in appendix I. In such cases, requests for assistance will include the following:

- a description of the facts underlying the subject of the request, and the purpose for which the assistance is sought;

- a description of the assistance sought by the requesting authority and why the information sought will be of assistance;

- any information known to, or in the possession of, the requesting authority that might assist the requested authority in identifying either the persons believed to possess the information or documents sought or the places where such information may be obtained.

In urgent circumstances, requests for assistance may be made in any form, including orally, provided such communication is confirmed in writing as promptly as possible following such notification.

Confidentiality

17. Each authority will keep confidential, to the extent permitted by law, non-public information shared under this MOU, including the contents of requests for assistance, and any other matters arising under this MOU, except for disclosures in accordance with the MOU, including permissible uses of information under paragraph 19 and 20.

18. Non-public information may not be shared with any other non-signatory to this MOU without the prior consent of the authority providing the non-public information.

19. The FED understands that, as per French law (Article L.631-1 of the French monetary and financial code), that Autorité de Contrôle Prudentiel et de Résolution ("ACPR") and AMF cooperate and are able to exchange confidential information to discharge their respective duties. In particular, article R.613-18 of the French monetary and financial code requires ACPR to disclose immediately and by any means to the operator of a security settlement system including the CCP any opening of a legal proceeding against a participant of a security settlement system that has been brought to its attention.

20. The FED acknowledges that information related to the opening of a legal proceeding against a Participant may be disclosed by the AMF to the ACPR in the context of the discharge of AMF supervision and regulatory duties, under the same confidentiality terms as this MOU.

21. In the event an authority is required by statute or legal process, other than those listed in paragraphs 19 and 20, to disclose non-public information shared under this MOU, it will, to the extent permitted by law, inform the authority that provided the information about the required onward sharing and will take reasonable steps to resist disclosure, including by

employing legal means to challenge an order requiring disclosure. Effective Date and Termination

22. Cooperation in accordance with this MOU will begin on the date of its signing by the authorities.

23. Cooperation in accordance with this MOU will continue until the membership and the participation of the Participants in the CCP and the CSD are revoked.

24. Signature

Date : 31 juillet 2015.

Autorité des marchés financiers : Le président, G. Rameix

Board of Governors of the Federal Reserve System : Director, Division of Banking Supervision and Regulation, M. S. Gibson

Appendix

Appendix I: Contact Persons

The following are the points of contact to this MOU: i. For the AMF:

ii. For the FED:

Appendix II: List of legal entities covered by this MOU

The legal entities covered by this MOU are the following:

- The Northern Trust Company