



TIAA Brokerage Customer Account Agreement (Investment Solutions IRA)

Brokerage accounts are provided by TIAA Brokerage, a division of TIAA-CREF Individual & Institutional Services, LLC, Member FINRA and SIPC, and are carried by Pershing LLC (“Pershing”), Member FINRA, NYSE, SIPC, a subsidiary of The Bank of New York Mellon Corporation.

I. General terms and conditions

By signing the TIAA Investment Solutions IRA Account Application (“Account Application”), I agree to be bound by the following terms and conditions as well as the terms and conditions set forth in Sections II and III of this agreement (collectively, with the Account Application, this “Agreement”):

1. “I,” “me,” and “my” refers to the individual signing the Account Application. “TIAA” refers to TIAA Brokerage, a division of TIAA-CREF Individual & Institutional Services, LLC. “Pershing” refers to Pershing LLC, the entity TIAA has designated as its clearing firm.
2. This Agreement governs investments and activities undertaken in conjunction with the optional self-directed brokerage feature of the Investment Solutions IRA offered by TIAA. I hereby acknowledge having elected to open a self-directed brokerage account (“Account”) as part of my Investment Solutions IRA. I understand that the terms, conditions, rights and responsibilities contained in this Agreement apply only to my Account, and that the other investments in my Investment Solutions IRA, such as TIAA mutual funds and annuities, Nuveen Funds and related cash balances, are governed by other agreements and documents including the IRA Disclosure Statements, IRA Custodial Agreements and the IRA Adoption Agreement, copies of which I hereby acknowledge having received and reviewed (the “Governing Agreements”). I understand that unless specifically provided otherwise in this Agreement, the terms, conditions, rights and responsibilities contained in the Governing Agreements shall apply. Capitalized terms not defined in this Agreement shall have the same meaning as in the Governing Agreements unless specifically provided otherwise herein. If a provision of this Agreement is inconsistent with the Governing Agreements, the terms of this Agreement shall take precedence.
3. I understand that TIAA, FSB (the “Custodian”) is the named Custodian for the Investment Solutions IRA. Pershing, pursuant to a Clearing Agreement with TIAA, will carry the Account and hold the Account’s brokerage funds and securities in its role as clearing broker. I acknowledge that when I transfer non-TIAA securities from another IRA into my Account, that TIAA will direct such securities to Pershing, which shall safekeep such securities and related cash balances as agent for the Custodian. Custodian will continue to be responsible for the safekeeping and custody of mutual funds and related cash balances not held in the Account.
4. I represent that I am of the age of majority, of legal capacity, and the information I have provided on my Account Application is accurate. I will notify TIAA of any change to the information provided on my Account Application within 30 days of such change. I will promptly notify TIAA within 10 days if I become a director, 10% beneficial shareholder or an affiliate of a publicly traded company, or if I become an employee of any securities exchange, self-regulatory organization, or a corporation of which an exchange owns a majority of the capital stock.
5. By opening an Account, I understand that I am establishing a brokerage account with TIAA through the Investment Solutions IRA. The Account will be established at TIAA in the name of the Custodian for my benefit, and I shall direct all investments in my Account. I shall be fully responsible for all investment decisions relating to my Account. I understand and accept the risks of investing through an individual brokerage account and accept responsibility for any losses I may incur as a result of such investments. I understand that it is my responsibility to follow all requirements for trading with TIAA and that if I refuse to comply, TIAA may, in its sole discretion, refuse to execute transactions for my Account or terminate the Account.

- I understand that before placing any order, I am responsible for ensuring that the transaction will be in compliance with all TIAA policies, the policies of the Investment Solutions IRA, and any statutory or regulatory requirements. TIAA has no obligation to ensure compliance prior to accepting an order. I acknowledge that as a self-directed investor, I am solely responsible for deciding whether my brokerage transactions are suitable investments in light of my stated objectives and financial situation, and that none of TIAA, the Custodian and Pershing is responsible for providing investment advice of any kind, including determining whether my transactions are permissible or suitable for my IRA. I acknowledge and agree that I may not use this Account to invest in municipal securities, commodity futures contracts, purchase securities on margin, and/or to engage in any investment in which the risk of loss may exceed the value of my Account. TIAA may provide me with market data or research relating to securities and securities markets, but does not guarantee the accuracy, completeness, or timeliness of such information. Such market data or research is not personalized or in any way tailored to my personal financial circumstances or investment objectives, unless TIAA has otherwise specifically agreed in writing in connection with an advisory program.
6. I acknowledge that TIAA and/or Pershing may disallow transactions in commodity futures contracts or investments other than marketable securities. Furthermore, I acknowledge that the Custodian, TIAA and Pershing have no fiduciary role or obligation with respect to my Account and are not responsible for losses or damages resulting from any investment transaction, including investment losses. TIAA, the Custodian and Pershing do not provide legal, accounting or tax advice and are not responsible for determining whether a particular investment might generate taxable income to an otherwise tax-exempt trust or for determining whether a particular transaction would constitute a “prohibited transaction” as that term is defined in the Internal Revenue Code of 1986 and Employee Retirement Income Security Act of 1974 (“ERISA”) and their implementing regulations. I understand that TIAA, the Custodian and Pershing are not authorized to give any investment, legal, tax or accounting advice and I will not solicit or rely upon any such advice from TIAA, the Custodian, or Pershing or any of their employees, whether in connection with transactions in or for any of my Account or otherwise.
 7. I acknowledge that I will be charged a commission on all transactions and other account-related fees in accordance with the standard TIAA Commission and Fee Schedule, as in effect from time to time. TIAA receives remuneration in connection with the Pershing Fund Vest No Transaction Fee and Transaction Fee Programs, including 12b-1 fees and other compensation from a mutual fund’s distributor, transfer agent or investment adviser for marketing, administration and/or distribution services provided with respect to mutual funds that are either in addition to, or in lieu of, fees paid under a 12b-1 plan. Additionally, Teachers Advisors, Inc., the investment adviser to the TIAA Funds, and the advisory entities of TIAA-CREF’s wholly owned subsidiary, Nuveen Fund Advisors, LLC, the investment advisers to the Nuveen Funds, receive fees from the Funds for investment advisory and/or fund administration services. See the respective fund’s prospectus or statement of additional information for fund payment information. TIAA generally limits the funds available for purchase through my brokerage account to funds, or share classes of a fund, that include a minimum level of compensation to TIAA. I may be able to purchase other share classes of the funds from the funds directly or through other providers. The funds available through the TIAA Platform, including available share classes of particular funds, may change over time at TIAA’s discretion. The fees charged with respect to any fund classes that are now or in the future made available through the Platform may also change over time at TIAA’s discretion or by the fund itself. For more information on how TIAA gets paid for its products and services, please refer to our brochure titled “Getting to know TIAA’s individual financial solutions and its financial professionals” located at the bottom of the home page of our secure website at <https://www.tiaa.org/public/pdf/GettingtoknowTIAA.pdf>
 8. I acknowledge that TIAA will send all communications to me at the mailing address I provide on my Account Application, or at such other address as I may subsequently provide to TIAA in writing, and that all communications so sent shall be deemed properly delivered, whether actually received by me or not. I acknowledge that I have a duty to timely review any confirmations or Account statements for accuracy. I am responsible for notifying TIAA or Custodian immediately of any error or omission. If I fail to notify TIAA, Pershing and/or Custodian of any error or omission within this time frame, the brokerage account statement and confirmations shall be presumed accurate.

9. I acknowledge that I must instruct TIAA by telephone, online or other TIAA designated channels, to liquidate investments in my Investment Solutions IRA account and transfer the resulting funds to my Account. I acknowledge that any such liquidation and transfer may take several days to complete.
10. I acknowledge that, at the time I place a trade, I am solely responsible for ensuring that I have sufficient funds in my Account to cover my purchase. If I have insufficient funds, my transaction will not be processed. I also acknowledge that TIAA may reject, cancel or modify any securities transactions that I have entered at any time, for any reason and without prior notice to me. I authorize TIAA to accept my oral or electronic instructions for the purchase and sale of securities. I acknowledge that such instructions must be placed through designated TIAA channels. TIAA will not accept orders or instructions sent via postal mail (including but not limited to U.S. mail or overnight delivery).
11. I acknowledge that TIAA may suspend or terminate my Account at any time, for any reason and without prior notice to me. I shall have 30 days from receiving notice of termination of my Account to transfer all holdings from within my Account to my Investment Solutions IRA account. Should I fail to complete this transfer within 30 days, I direct TIAA to liquidate the Account holdings and to make the transfer on my behalf. In the event my Account is liquidated, I agree to be liable for any resulting losses and costs incurred by TIAA. I may close the Account at any time by giving TIAA signed written notice. I acknowledge that my Investment Solutions IRA Account may require that any amount transferred from my Account to the other investment options under the Investment Solutions IRA Account first be transferred into the CREF Money Market Account, and that I am free thereafter to reallocate this amount within my Investment Solutions IRA Account as I choose and as allowed by the Governing Agreements.
12. I acknowledge that I will pay in full for securities I purchase by the settlement date. For transactions not settled by settlement date, TIAA shall have the right, without notice to me, to sell securities purchased.
13. TIAA will have a lien against my Account assets for any outstanding balance owed by my Account or by me with respect to my Account, except where prohibited by law. In enforcing its lien, TIAA shall have the discretion to determine which assets are to be sold, except where prohibited by law. TIAA may transfer securities or other property from my Investment Solutions IRA Account, without notice, to my Account in order to satisfy deficiencies in my Account, except where prohibited by law. I grant TIAA the right of setoff against any other assets I hold at TIAA through my Investment Solutions IRA. I acknowledge and agree that (i) any such lien and right of setoff are for the purpose of satisfaction of outstanding fees and expenses due with respect to my Investment Solutions IRA, (ii) should any setoff occur in accordance with this paragraph, I shall be considered to have directed payment of the applicable amount from my Investment Solutions IRA and (iii) I am solely responsible for the effects on my Investment Solutions IRA of the payment of any fee or expense from assets of my Investment Solutions IRA (including any such payment by reason of my deemed direction), whether or not from the Account. I acknowledge and agree that neither TIAA, the Custodian, nor Pershing shall have any liability whatsoever with respect to the establishment of a lien or the execution of any setoff pursuant to this paragraph. I agree to pay any costs or expenses incurred by TIAA, including reasonable attorneys' fees that result from my failure to properly settle any securities transactions, pay any debt or otherwise satisfy my obligations under this Agreement.
14. I acknowledge that various federal and state laws or regulations may be applicable to transactions in my Account regarding restricted securities, as defined by applicable securities laws and regulations. It is my responsibility to notify TIAA if my Account contains restricted securities and to ensure that any transaction I effect will conform to all applicable laws and regulations. I understand that transactions in restricted securities may take longer to process than transactions involving unrestricted securities. Additionally, I acknowledge TIAA is obligated by federal securities laws to provide my name, address and holdings information to issuers of those securities upon request, unless I instruct TIAA in writing not to do so. Notwithstanding the foregoing, TIAA may, at its discretion, refuse to permit restricted securities within my Account.
15. I acknowledge this Agreement contains a predispute arbitration clause. By signing an arbitration agreement, the parties agree as follows:
 1. All parties to this Agreement are giving up the right to sue each other in court, including the right to a trial by jury, except as provided by the rules of the arbitration forum in which a claim is filed.
 2. Arbitration awards are generally final and binding; a party's ability to have a court reverse or modify an arbitration award is very limited.

3. The ability of the parties to obtain documents, witness statements and other discovery is generally more limited in arbitration than in court proceedings.
4. The arbitrators do not have to explain the reason(s) for their award unless in an eligible case, a joint request for an explained decision has been submitted by all parties to the panel at least 20 days prior to the first scheduled hearing date.
5. The panel of arbitrators will typically include a minority of arbitrators who were or are affiliated with the securities industry.
6. The rules of some arbitration forums may impose time limits for bringing a claim in arbitration. In some cases, a claim that is ineligible for arbitration may be brought in court.
7. The rules of the arbitration forum in which the claim is filed, and any amendments thereto, shall be incorporated into this Agreement.

ANY CONTROVERSY THAT SHALL ARISE BETWEEN THE ACCOUNT HOLDER AND TIAA, ITS AFFILIATES OR PERSHING (INCLUDING BUT NOT LIMITED TO CONTROVERSIES CONCERNING ANY ACCOUNT, ORDER OR TRANSACTION, OR THE CONTINUATION, PERFORMANCE, OR BREACH OF THIS OR ANY OTHER AGREEMENT BETWEEN THE ACCOUNT HOLDER AND TIAA, ITS AFFILIATES OR PERSHING, WHETHER ENTERED INTO OR ARISING BEFORE, ON OR AFTER THIS ACCOUNT IS OPENED) SHALL BE SUBMITTED TO ARBITRATION BEFORE AND ONLY BEFORE THE FINANCIAL INDUSTRY REGULATORY AUTHORITY. ARBITRATION MUST BE COMMENCED BY SERVICE UPON THE OTHER PARTY OF A WRITTEN DEMAND FOR ARBITRATION OR A WRITTEN NOTICE OF INTENTION TO ARBITRATE, THEREIN INDICATING THE ARBITRATION TRIBUNAL. NO PERSON SHALL BRING PUTATIVE OR CERTIFIED CLASS ACTION TO ARBITRATION, NOR SEEK TO ENFORCE ANY PREDISPUTE ARBITRATION AGREEMENT AGAINST ANY PERSON WHO HAS INITIATED IN COURT A PUTATIVE CLASS ACTION; OR WHO IS A MEMBER OF A PUTATIVE CLASS WHO HAS NOT OPTED OUT OF THE CLASS WITH RESPECT TO ANY CLAIMS ENCOMPASSED BY THE PUTATIVE CLASS ACTION UNTIL: (I) THE CLASS CERTIFICATION IS DENIED; (II) THE CLASS IS DECERTIFIED; OR (III) THE CUSTOMER IS EXCLUDED FROM THE CLASS BY THE COURT. SUCH FORBEARANCE TO ENFORCE AN AGREEMENT TO ARBITRATE SHALL NOT CONSTITUTE A WAIVER OF ANY RIGHTS UNDER THIS AGREEMENT EXCEPT TO THE EXTENT STATED HEREIN. ANY ARBITRATION AWARD SHALL BE FINAL AND BINDING, AND ANY COURT HAVING JURISDICTION MAY ENTER JUDGMENT THEREON.

16. I acknowledge that none of TIAA, Pershing, Custodian and each service provider and Pershing will be liable in any way to me or any other person for any inaccuracy, error, or delay in, or omission of any data, information or message or the transmission or delivery of any data, information or message, or any loss or damages arising from or occasioned by: any inaccuracy, error, delay or omission, nonperformance, interruption in data due to neglect or omission by any service provider, any "force majeure" (e.g., loss caused directly or indirectly by flood, fire, war, terrorism, civil unrest, strikes, natural disaster, extraordinary weather conditions, earthquake or other acts of God, government restrictions or actions, interruptions of communications, exchanges or market rulings, suspension of trading or other conditions beyond TIAA's control, failure, or equipment or software malfunction), or any other cause beyond the reasonable control of any service provider.
17. None of TIAA, the Custodian and Pershing shall be liable for any direct, indirect, incidental, special or consequential damages that may arise from its provision of services to me or to my Investment Solutions IRA, including the Account. None of TIAA, the Custodian and Pershing shall be liable for any losses incurred with respect to my investment selection and performance of the assets in my Account, nor shall they have any responsibility for questioning my investment decisions or otherwise inquiring into the merits of my investments. Applicable policies or rules may restrict certain securities from being available for investment in my Account. I alone am responsible for knowing and complying with these restrictions. None of TIAA, the Custodian and Pershing will monitor whether my trading activity is permissible under the Governing Agreements, or consistent with applicable laws, including ERISA, the Internal Revenue Code of 1986 or state law. TIAA, Pershing and the Custodian may use and rely upon the services of clearing agencies, automatic data processing vendors, proxy processing, transfer agents, securities pricing services and other similar organizations; in such event, TIAA, Pershing and the Custodian shall not be responsible for the acts and omissions of such third parties except to the extent that they occur as a result of the gross negligence or willful misconduct of TIAA, Pershing or the Custodian.
18. I understand that my Account includes a sweep program feature, which automatically transfers available uninvested cash balances in my Account at the end of each business day to a money market fund or bank

sweep deposit account, if applicable (each a “Sweep Vehicle” and together the “Sweep Program”) and facilitates the redemption of available shares of any such money market funds or the transfer of available cash balances from any such bank sweep deposit accounts to my Account to cover purchases of securities and other debits in my Account. Available Sweep Vehicles vary based on account type. I direct TIAA to use the Sweep Vehicle indicated on my Account Application as the Sweep Vehicle for my Account and, if I fail to indicate a Sweep Vehicle, I direct TIAA to use the default Sweep Vehicle indicated therein. If my account type includes only one Sweep Vehicle, I acknowledge that the Sweep Vehicle set forth in the Account Application will serve as the sweep option in which all available uninvested cash balances in my Account will be allocated at the end of each business day. Different Sweep Vehicles may have different rates of return and different terms and conditions, including but not limited to, requiring minimum cash balances in my Account before such balances may be swept to a Sweep Vehicle. Money market mutual funds are securities that are registered with the U.S. Securities and Exchange Commission (“SEC”) under the Investment Company Act of 1940 and the Securities Act of 1933. Although money market funds attempt to maintain a stable net asset value of \$1 per share, there is no guarantee that the fund will in fact maintain a \$1 per share stable net asset value. Money market funds are not insured by the Federal Deposit Insurance Corporation (“FDIC”). Money market funds are, however, securities subject to protection by the Securities Investor Protection Corporation (“SIPC”) in the event of insolvency of Pershing, LLC as the brokerage firm holding my Account and cash or securities are owed to me. SIPC is a non-profit member corporation funded primarily by member securities brokerage firms registered with the SEC, which protects customers up to certain limits in the event of the failure of a brokerage firm where cash and securities are owed to customers. See the TIAA Brokerage Services SIPC Asset Protection Guide for more information. SIPC does not protect against loss due to market fluctuation or failure of the issuer of a money market fund. More specific information about a particular money market mutual fund, including applicable fund restrictions, fees and expenses and other important information can be found in the fund’s prospectus. Bank sweep options are deposit accounts held at one or more banks. Deposit accounts pay interest on deposits pursuant to the terms and conditions in the disclosure document for the applicable bank sweep option. Interest rates may fluctuate and may

vary among banks. Deposit accounts are not subject to SIPC protection. They are subject to FDIC insurance up to applicable limits. FDIC insurance protects against loss of deposit amounts in the event the bank holding the deposits fails. More specific information about particular bank sweep options, including applicable FDIC insurance limits, interest amounts and other important information can be found in the applicable bank sweep disclosure document. Prospectuses or similar disclosure documents for the Sweep Vehicle option(s) available for my Account are available by calling **800-927-3059**. I agree to review these disclosure documents prior to opening my Account. I understand that TIAA may change the terms and conditions of the Sweep Program and the Sweep Vehicle options available for my Account, in its sole discretion. TIAA will provide me with written notice in advance of adding, changing or deleting Sweep Vehicle options for my Account or making other changes to the Sweep Program to the extent required by applicable law.

19. For the parties mutual protection, I understand, agree and expressly consent to the electronic recordation of any of my telephone conversations with TIAA and to our monitoring of my electronic communications with TIAA, including but not limited to email and facsimile transmissions. I acknowledge that when I change any instruction on a limit order, I am responsible for any open order and any actions by me that modify or impact an open order. If I fail to take action, I understand that I will be responsible for any losses, including applicable commission charges. I am responsible for knowing the status of my pending orders and any duplication by me of a pending order will be considered authorized by me.
20. I acknowledge that federal law requires that TIAA verify my identity by obtaining, among other information, my name, date of birth, address and government-issued identification number before opening my Account. This information is necessary to help the government fight the funding of terrorism and money laundering activities. TIAA may gather and verify this information with respect to any other person authorized to effect transactions in my Account. TIAA may restrict and/or close my Account if TIAA cannot verify this information. TIAA will not be responsible for any losses resulting from my failure to provide this information, or from any related restriction or closing of my Account.
21. I acknowledge that if any provision or condition of this Agreement is held invalid or unenforceable for any reason by any court, regulatory or self-regulatory agency or body, such provision or condition shall be fully severable, and this Agreement shall be enforced and

construed as if such provision or condition had never comprised a part of this Agreement. You acknowledge that to deter frequent trading within mutual funds, a short-term redemption fee may be assessed against any transaction that results in mutual fund shares being held for less than six months. This fee is in addition to any short-term redemption fee or restriction the underlying mutual fund may independently assess against the same transaction. Each of TIAA, Pershing and/or Custodian reserves the right to restrict access to the purchase of mutual fund shares within any account deemed at their sole discretion to engage in excessive or abusive short-term trading patterns. Additionally, in the event Pershing or Custodian, as the case may be, is instructed by the issuer of a mutual fund to restrict your access to such mutual fund's shares, such a restriction may remain in place until Pershing or Custodian receives notice from the issuer to remove the restriction.

22. I acknowledge that this Agreement cannot be modified by conduct and/or the failure of TIAA, Pershing and Custodian at any time to enforce its rights hereunder to the greatest extent permitted by law, and shall not be deemed to waive, modify or relax any of the rights granted to TIAA, Pershing and/or Custodian herein.

23. I acknowledge that this Agreement constitutes the full and entire understanding between the parties with respect to the provisions herein, and that there are no oral or other agreements in conflict herewith. I acknowledge that each of TIAA, Pershing and/or Custodian reserves the right to amend this Agreement by modifying or rescinding any of its existing provisions or by adding any new provision at any time upon written notice to me on my brokerage account statement(s), trade confirmation(s), or such other written or electronic notification, including but not limited to posting notice of such amendment(s) and/or the amended Agreement on the TIAA brokerage website. The amended Agreement will be effective as of the date established by TIAA, Pershing and/or Custodian (the "Effective Date"). I agree that any future amendments made to the Agreement shall apply to my Account and to any subsequent Accounts I ask TIAA to establish for me in the future. The use of my Account after the Effective Date of the amendment(s) shall constitute my acknowledgement and agreement to be bound thereby. I am responsible for regularly checking for updates. I understand additional restrictions may apply to the brokerage services provided hereunder and additional documentation may be required by applicable law or TIAA, Pershing and Custodian's policies and procedures. I agree to comply with any such restrictions and promptly provide any documents or information requested.

24. I acknowledge that use of the telephone, Internet or any other electronic system and software provided for use in accessing my Account information, is used at my sole risk. I further acknowledge that none of TIAA, Pershing, Custodian and any of their vendors providing data, information or other services, including but not limited to any exchange (collectively, "service providers"), warrant that the service will be uninterrupted or error free and that TIAA, Pershing and Custodian do not make any warranty as to the results that may be obtained from any of these systems. I further acknowledge that the telephone, Internet and other electronic systems are provided on an as-is and as-available basis, without warranties of any kind, either expressed or implied, including, without limitation those of merchantability and fitness for a particular purpose, other than those warranties which are implied by and incapable of exclusion, restriction or modification under the laws applicable to this Agreement. No service provider will be liable in any way to me or any other person for inaccuracy, error, delay in, or omission of any data, information, or message, or the transmission or delivery of any data, information or message, or any loss or damages arising from or occasioned by: any inaccuracy, error, delay or omission, nonperformance, interruption in data due to neglect or omission by any service provider, any "force majeure" (e.g. loss caused, directly or indirectly by flood, fire, war, terrorism, civil unrest, strikes, natural disaster, extraordinary weather conditions, earthquake or other acts of God, government restrictions or actions, interruptions of communications, exchanges or market rulings, suspension of trading or other conditions beyond TIAA's control, failure, or equipment or software malfunction), or any other cause beyond the reasonable control of any service provider.

25. I acknowledge receipt of the TIAA privacy policy.

26. I acknowledge that complaints regarding my Account are to be mailed to: TIAA Brokerage, P.O. Box 1280, Charlotte, North Carolina 28201, or I may call **800-927-3059**.

27. You agree that TIAA may assign this Agreement (in part or in full, and including assigning the role of clearing broker and custodian for the Account) to any third-party or any subsidiary, affiliate or successor of TIAA. You hereby delegate and grant to TIAA the power and authority to make these changes on your behalf. TIAA will provide you with at least 30 days prior written notice of such assignment and you will be deemed to have consented to the assignment if you conduct any transactions in your Account or keep your Account open subsequent to receiving such a notice.

II. Role of Pershing

TIAA retained Pershing to act as a clearing broker for TIAA and provide certain recordkeeping and operational services, which may include execution and settlement of securities transactions, custody of securities and cash balances, and extension of credit on margin transactions. These services are provided under a written Clearing Agreement between Pershing and TIAA. The respective roles of Pershing and TIAA, as defined within the Clearing Agreement, are outlined below.

1. In general, Pershing is only responsible for those services provided at the request or direction of TIAA as contemplated by the Clearing Agreement.
2. Pershing will create computer-based Account records on the account holder's behalf in such name(s) and with such address(es) as TIAA directs.
3. Pershing will process orders for the purchase, sale or transfer of securities for the Account as TIAA directs. Pershing is not obligated to accept orders for securities transactions directly from the account holder and will do so only in exceptional circumstances.
4. Pershing will receive and deliver cash and securities for the Account and will record such receipts and deliveries according to information provided either by TIAA or directly, in writing, by the account holder. Pershing is the only recipient of cash or checks for the Account by the account holder.
5. Pershing will hold in custody securities and cash received for the Account, and will collect and disburse dividends and interest and process reorganization and voting instructions with respect to securities held in custody. Pershing is responsible for the custody of cash and securities only after it comes into Pershing's physical possession or control.
6. Pershing will prepare and transmit to the account holder or provide facilities to TIAA for the preparation and transmission of confirmations of trades. Pershing will prepare and transmit to the account holder periodic account statements summarizing the transaction history.
7. In connection with all of the functions that Pershing performs, Pershing maintains the books and records required by law and by business practice. Pershing will provide TIAA with written reports of all transactions processed for the Account to enable it to carry out its responsibilities under the Clearing Agreement. Pershing will assist the account holder and TIAA with any discrepancies or errors that may occur in the processing of transactions for the Account.
8. PERSHING DOES NOT CONTROL, AUDIT OR OTHERWISE SUPERVISE THE ACTIVITIES OF TIAA OR ITS EMPLOYEES. PERSHING DOES NOT VERIFY INFORMATION PROVIDED BY TIAA REGARDING THE ACCOUNT OR TRANSACTIONS PROCESSED FOR THE ACCOUNT NOR UNDERTAKE RESPONSIBILITY FOR REVIEWING THE APPROPRIATENESS OF TRANSACTIONS ENTERED BY TIAA ON THE ACCOUNT HOLDER'S BEHALF. PERSHING SHALL NOT BE RESPONSIBLE OR LIABLE FOR ANY ACTS OR OMISSIONS OF TIAA OR ITS EMPLOYEES. YOU UNDERSTAND THAT TIAA IS NOT ACTING AS THE AGENT OF PERSHING AND YOU AGREE THAT YOU WILL IN NO WAY HOLD PERSHING, ITS OTHER DIVISIONS, AND ITS OFFICERS, DIRECTORS AND AGENTS LIABLE FOR ANY TRADING LOSSES INCURRED BY YOU.
9. The Clearing Agreement does not encompass transactions in commodities futures contracts or investments other than marketable securities, which Pershing normally processes on recognized exchanges and over-the-counter markets.
10. In furnishing its services under the Clearing Agreement, Pershing may use and rely upon the services of clearing agencies, automatic data processing vendors, proxy processing, transfer agents, securities pricing services and other similar organizations.
11. This statement addresses the basic allocation of functions regarding the handling of the Account. It is not meant as a definitive enumeration of every possible circumstance, but only as a general disclosure.

III. Commission and fee schedule

	Online TIAA.org/brokerage	Automated Telephone System (ATS) 800-842-2252	Client Service Assistance 800-927-3059
Equities and Exchange-Traded Funds (ETFs)			
Equity and Transaction-Fee ETFs	<ul style="list-style-type: none"> \$7.95 per trade \$5.95 per trade for customers that receive a financial planning solution from their Wealth Management advisor. 	\$35	\$55
No-Transaction Fee (NTF) ETFs	<ul style="list-style-type: none"> NTF eligible ETFs will have a \$0.00 commission, regardless of order size or holding period Any ETF shares purchased prior to January 26, 2018, and are now identified as a No Transaction Fee ETF, will still be charged a commission when the shares are sold. 		
Equity Notes	<ul style="list-style-type: none"> Fees shown reflect stock prices greater than \$1 per share. Orders to buy shares priced under \$1, restricted shares, foreign securities, privately held securities, shares without a market price or no bid/ask will not be accepted. Orders to sell shares priced under \$1 are handled via Client Service Assistance at the online commission rate above, based on eligibility. 		
Financial Transaction Tax (FTT) Ordinary and ADR	<ul style="list-style-type: none"> All opening transactions in FTT-eligible French companies will be subject to the French FTT at a rate of 0.30% of the total transaction cost. All opening transactions in FTT-eligible Italian companies will be subject to the Italian FTT at a rate between 0.10% - 0.20% of the total transaction cost. 		
ADR Agent Servicing Fee	<ul style="list-style-type: none"> Fee will generally range from \$0.01 - \$0.03 per share. Amounts will differ by ADR. Please refer to the ADR prospectus for specific fee and other information. 		

Fixed Income

Bonds and CDs are available for purchase online, or for assistance call 800-927-3059.

U.S. Treasury Securities

New Issues (primary, at auction)	\$50 per transaction
Existing Issues (secondary, already trading)	\$1 per \$1,000 face amount, (\$50 minimum)

Other Fixed Income

Municipal Bonds, Government Agency Bonds, Unlisted (Over-the-counter, or OTC) Corporate Bonds, and Mortgage-backed Securities ¹	\$50 + \$2 per bond
Certificates of Deposit—New Issues	Purchase minimums of \$5,000, no commission (interest rate reflects issuing bank's fee).

1. TIAA may execute certain fixed-income transactions for your Account on either an agency or principal basis. If we execute on an agency basis, the commissions listed above will apply. If we execute on a principal basis, we will sell a fixed-income product to you (or buy it from you), which we contemporaneously purchase (or sell) to a dealer. If so, the net compensation earned by TIAA will include a mark-up. If we sell a fixed-income product to you, the mark-up is the difference between the sales price to you and the price we pay to purchase the product from a dealer. If we buy a fixed-income product from you, the mark-up is the difference between the sales price to the dealer and the price we pay to purchase the security from you.

TIAA Brokerage, a division of TIAA-CREF Individual & Institutional Services, LLC, reserves the right to change this fee and commission schedule at its discretion, subject to notification in accordance with applicable laws and regulations.

III. Commission and fee schedule (continued)

	Online TIAA.org/brokerage	Automated Telephone System (ATS) 800-842-2252	Client Service Assistance 800-927-3059
Options			
Commissions and fees	<ul style="list-style-type: none"> ▪ \$7.95 + \$2.00 per contract ▪ \$5.95 + \$1.00 per contract for customers that receive a financial planning solution from their Wealth Management advisor. 	\$35 + \$2.00 per contract	\$55 + \$2.50 per contract
Options exercise/assignment	\$25	\$25	\$25
Mutual Funds			
No-transaction-fee (NTF) funds	<ul style="list-style-type: none"> ▪ Minimum initial investment for mutual funds: The greater of either the listed amount in the fund's prospectus or \$500. Additional investments typically based on amount listed in the fund's prospectus, generally \$100. Purchases placed below the stated minimum amount will be charged the appropriate transaction fee. Different minimums may apply for managed accounts. ▪ Short-term redemption fee: \$50 minimum for shares held less than six months (waived for shares transferred from another brokerage firm or financial institution). Additional redemption fees may apply as set forth in each fund's prospectus. ▪ Dollar cost averaging transactions, no-fee; minimum transaction \$100. 		
Transaction-fee (TF) funds	<ul style="list-style-type: none"> ▪ Transaction fee, regardless of order size: <ul style="list-style-type: none"> – \$50 per trade – \$35 per trade for customers that receive a financial planning solution from their Wealth Management advisor. ▪ Minimum initial investment for mutual funds: The greater of either the listed amount in the fund's prospectus or \$500. Additional investments typically based on amount listed in the fund's prospectus, generally \$100. Purchases placed below the stated minimum amount will be charged the appropriate transaction fee. Different minimums may apply for managed accounts. ▪ Dollar cost averaging transactions, no-fee; minimum transaction \$100. ▪ Exchanges: \$8 per trade regardless of order size. 		
Account maintenance fees			
Account research	\$20 per hour		
ACH return fee	\$25		
Alternate Investment Transfer/Processing Fee	\$50		
Direct Registration System (DRS) Outgoing Transfer—Shares sent directly back to the transfer agent*	\$30 per security, per account		
Foreign securities	\$75 for each order (not applicable to American Depositary Receipts) + commission		
Foreign security receive and deliver fee	\$75		
International overnight check delivery fee	\$28		
IRA termination fee	\$130 Termination fee does not apply to the IS IRA self-directed brokerage account, or if the assets from a TIAA IRA account are transferred to a new or existing TIAA IRA account.		
Margin extensions	\$15		
NSF/return check deposit fee	\$25		
Outgoing Wired Funds fee	\$25		

III. Commission and fee schedule (continued)

Account maintenance fees (continued)	
Overnight check delivery fee	\$12
Post-effective reorganizations—Voluntary	\$75
Preferred Stock Administrative Fee	\$50
Reorganizations—Voluntary	\$25
Safekeeping fee for physical securities	\$2 per account, per position, per month
Saturday delivery—Overnight check delivery fee	\$18
Special Product Fee—Registered REITs	\$35 per position, charged at transfer and then annually
Special Product Fee—Unregistered REIT's	\$125 per position, charged at transfer and then annually
Stop-payment order fee	\$15
Transfers of gifted securities or checks mailed regular delivery*	No charge
Transfers—Accommodation*	\$80 per transfer
Transfers—GNMA, restricted, legal*	\$65 per transfer
Transfers—Outgoing full account*	\$50 per transfer, no charge for partial transfers
Transfers—Register, Transfer and Ship*	\$80 per transfer, plus any third-party charges, including a DTCC charge of \$500

* Checks in the amount of \$250,000 or more for transfers or payments will be sent via overnight delivery and a delivery fee of \$12 will be charged to the account.

TIAA Brokerage, a division of TIAA-CREF Individual & Institutional Services, LLC, reserves the right to change this fee and commission schedule at its discretion, subject to notification in accordance with applicable laws and regulations.

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