



TIAA Self-Directed Brokerage Account Customer Account Agreement

Brokerage accounts are provided by TIAA Brokerage Services, 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 Brokerage Services 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" refer to the individual signing the Account Application. "TIAA" refers to TIAA-CREF Brokerage Services, a division of TIAA-CREF Individual & Institutional Services, LLC. "Custodian" refers to Pershing. "Account" refers to the self-directed brokerage account opened in my name with custody at Pershing.
2. I understand that I have been authorized by my employer ("Plan Sponsor"), or other plan fiduciary, to establish an Account as an investment option under my employer-sponsored retirement plan or 403(b) plan or arrangement ("Plan"). I agree not to take any action that exceeds the authority granted to me under the Plan. By opening an Account, I understand that I am establishing a self-directed brokerage account with TIAA through the Plan. The Account will be established in the name of the Trustee and/or Custodian of the Plan for my benefit. 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.
3. In connection with the establishment of my Account, I acknowledge that TIAA may accept from the Plan Sponsor, on my behalf, any instruction or authorization necessary to facilitate the transfer of any amounts and/or securities held at another institution to my Account, all without my consent. In connection with plan administration matters, including but not limited to the correction of errors relating to the remittance of contributions or a change of plan custodian, I acknowledge that the Plan Sponsor may, in its sole discretion, take any or all of the following actions with respect to my Account: (a) instruct and direct TIAA and/or Custodian to liquidate securities in my Account, (b) terminate my Account, and (c) transfer assets in my Account to another institution, all without my consent.
4. If the Plan is an unfunded plan (e.g., a plan designed to meet the requirements of Internal Revenue Code ("IRC") §457(b) as they apply to a non-governmental private employer, or IRC §457(f)), then the assets of this Account shall be owned solely by the Plan Sponsor and shall be subject only to the claims of the Plan Sponsor's general creditors. With respect to such unfunded plans, notwithstanding any provision in this Agreement to the contrary, the individual signing the Account Application has the sole right to direct the investment of assets held in the Account consistent with the terms of the Plan (provided that the Plan Sponsor may revoke such right at anytime), and such individual shall not have any other rights or interests in the assets held in the Account or this Agreement. Instead, the Plan Sponsor shall have all rights and interests in this Agreement and the assets held in the Account, and may use such assets for any purpose it so desires.

5. 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, 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.
6. 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 the Plan Sponsor, TIAA, the Custodian and the Trustee, are responsible for providing investment advice of any kind, including determining whether my transactions are suitable. 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 engage in any investment in which the risk of loss may exceed the value of my Account. If the Plan is subject to Internal Revenue Code Section 403(b), I understand and agree that I may only invest in shares of mutual funds.
7. I acknowledge that 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. I understand that employees of TIAA, the Plan Sponsor and the Custodian are not authorized to give any legal, tax, or accounting advice and I will not solicit or rely upon any such advice from TIAA, the Plan Sponsor or the Custodian, or any of their employees, whether in connection with transactions in or for any Account or otherwise.
8. 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 advisor to the TIAA-CREF Funds, and the advisory entities of TIAA wholly-owned subsidiary, Nuveen Fund Advisors, LLC, the investment advisors 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 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 are 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>
9. I acknowledge that any amounts I transfer to my Account from the Plan will be automatically transferred to a money market fund ("Fund") selected by the Plan Sponsor or other named fiduciary of the Plan. I may subsequently reinvest those amounts in my Account as I choose. I acknowledge TIAA will purchase Fund shares with any cash balances remaining in my Account at the conclusion of each business day. This activity will be reflected on my quarterly account statement in lieu of a daily confirmation. I understand however, that I am entitled to confirmations of trade activity in my Account, and that confirmations will be provided to me upon my request. I have received/accessed and read a copy of the Fund prospectus, which contains a complete description and details of its fees and operation.
10. I acknowledge that I must instruct TIAA by telephone, online, or other TIAA designated channels to liquidate investments in my Plan Account and transfer the resulting funds to my Account. I acknowledge that any such liquidation and transfer may take several days to

complete. I acknowledge that TIAA may transfer funds from my Plan Account, without notice, to my Account if necessary to cover outstanding debit balances in my Account, or that TIAA may liquidate my most recent purchase in my Account in order to cover any outstanding debit balances.

11. I acknowledge that, at the time I place a trade, I am solely responsible for ensuring that I have sufficient funds 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).

12. I acknowledge that TIAA may suspend or terminate my Account at any time, for any time 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 Plan Account. Should I fail to complete this transfer within 30 days, I direct Plan Sponsor and/or TIAA to liquidate the Account holdings and 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 my Account at any time by giving TIAA signed written notice. I acknowledge that my Plan may require that any amount transferred from my Account back to my Plan Account first be transferred into the CREF Money Market Fund, and that I am free thereafter to reallocate this amount within my Plan as I choose and as allowed by the Plan.

13. I acknowledge that I will pay in full for securities I purchase by the settlement date. For transactions not paid for by settlement date, TIAA shall have the right, without notice to me, to sell securities purchased.

14. TIAA may transfer securities or other property from any of my accounts to any of my other accounts in order to satisfy deficiencies in any of my accounts, except where prohibited by law. I grant TIAA the right of set-off against any other assets I hold at TIAA through my Plan in satisfaction of any debt in any other account, except

where prohibited by law. I acknowledge and agree that (i) any such right of set-off is for the purpose of satisfaction of outstanding fees and expenses due with respect to any of my accounts, and (ii) should any set-off occur in accordance with this paragraph, I shall be considered to have directed payment of the applicable amount from the applicable account(s). 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. I acknowledge that my accounts may be subject to interest on any debit balances resulting from my failure to make payment in full for securities purchased from proceeds of sales paid prior to settlement date, or for other charges that may be made to the account(s).

15. Should my Plan allow for the purchase of individual equities, 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.

16. I acknowledge that this Agreement contains a pre-dispute 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.

17. TIAA will have a lien against my Account assets for the discharge of any and all indebtedness or any other obligations I may have to TIAA, except where prohibited by law. In enforcing its lien, TIAA may, in its sole discretion, determine which securities and other property held in my Account are to be sold or which contracts should be closed, except where prohibited by law. I acknowledge and agree that (i) any such lien is for the purpose of satisfaction of outstanding fees and expenses due with respect to my Account, and (ii) I am solely responsible for the effects on my Account of the payment of any fee or expense from assets of my Account (including any such payment by reason of my deemed direction), whether or not from the Account. I acknowledge and agree that none of Plan Sponsor, TIAA and the Custodian shall have any liability whatsoever with respect to the establishment of a lien 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.

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 the 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 loss, 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 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 in writing shall be deemed delivered, whether actually received 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 or Custodian of any error or omission within this time frame, the brokerage account statement and confirmations shall be presumed accurate.
21. 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 loss resulting from my failure to provide this information or from any related restriction or closing of my Account.
22. I acknowledge that none of TIAA, Custodian, Plan Sponsor, and each service provider 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.

- 23.** TIAA shall not be liable for any direct, indirect, incidental, special or consequential damages that may arise from its provision of services to me. None of the Plan Sponsor, TIAA, the Custodian and the Trustee, as the case may be, shall be liable for any losses incurred with respect to my investment selection and performance of the assets in my Account. TIAA shall have no responsibility for questioning my investment decisions. My Plan Sponsor 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 the Plan Sponsor, TIAA, the Trustee and the Custodian, as the case may be, will monitor whether my trading activity is permissible under the Plan documents or consistent with the Employee Retirement Income Security Act of 1974, as amended, the Internal Revenue Code of 1986 or state law. Plan Sponsor, TIAA, the Trustee 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, none of Plan Sponsor, TIAA, the Trustee or the Custodian shall 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 Plan Sponsor, TIAA, the Trustee or the Custodian.
- 24.** I acknowledge that to deter frequent trading within mutual funds, TIAA Brokerage Services’ clearing firm, Pershing, may assess a short-term redemption fee against any transaction that results in mutual fund shares being held for less than three months. This fee is in addition to any short-term redemption fee or restriction the underlying mutual fund family may independently assess against the same transaction. Both TIAA and Pershing reserve 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.
- 25.** 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.
- 26.** I acknowledge that this Agreement cannot be modified by conduct and/or the failure of Plan Sponsor, TIAA or Pershing at any time to enforce its rights hereunder to the greatest extent permitted by law, and shall not in any way be deemed to waive, modify, or relax any of the rights granted to Plan Sponsor, TIAA or Custodian.
- 27.** 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 TIAA 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 and/or Custodian (the “Effective Date”). I agree that any future amendments made to the Agreement shall apply to my Account and to any other accounts established with TIAA 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 that additional restrictions may apply to the brokerage services provided hereunder and that additional documentation may be required by applicable law or by Plan Sponsor, TIAA or Custodian’s policies and procedures. I agree to comply with any such restrictions and promptly provide any documents or information requested.
- 28.** 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, its vendors providing data, information, and 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 does 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 merchant ability and fitness for a particular purpose, other than those warranties which are implied by and incapable of exclusion, restriction or modification. No service provider will be liable in any way to me or any other person for 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, non-performance, 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.

29. I acknowledge receipt of the TIAA privacy policy.
30. I acknowledge that complaints regarding my Account are to be mailed to: TIAA, P.O. Box 1280, Charlotte, North Carolina 28201 or I may call **800-927-3059**.
31. Some account types may permit trading in a limited range of securities (e.g., mutual funds) and I acknowledge that I must follow Plan Sponsor and TIAA policies and procedures in order to request expanded trading privileges for such accounts. I understand that such expanded trading privileges may not be granted.

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 and custody of securities and cash balances. 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.
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

Not all fees apply or are pertinent to all employer-sponsored plans. See individual plan for investment option details.

Online TIAA.org/brokerage

Automated Telephone System
(ATS) 800-842-2252

Client Service Assistance
800-927-3059

Equities

Commissions	Equity and ETF Trades—\$7.95	\$35	\$55
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 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 0.20% 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 via Client Service Assistance. Please call 800-927-3059 for more information.		
U.S. Treasury Securities			
New Issues (at auction)	\$50 per transaction		
Existing issues	\$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	TIAA may execute certain fixed-income transactions for your Account on either an agency or principal basis. If we execute on an agency basis, a \$50 + \$2 per bond commission will be charged. 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.		
Certificates of Deposit - New Issues	Purchase minimums of \$5,000, no commission (interest rate reflects issuing bank's fee)		

Mutual funds

No-transaction-fee (NTF) funds	<ul style="list-style-type: none"> Minimum initial investment for most funds: \$500. For subsequent investments, a minimum may apply. Short-term redemption fee: \$50 minimum for shares held less than three months (waived for shares transferred from another brokerage firm or financial institution) Dollar cost averaging transactions, no-fee; minimum transaction \$100 		
Transaction-fee (TF) funds	<ul style="list-style-type: none"> Transaction-fee: \$35 per trade regardless of order size Minimum initial and additional investments typically based on amount listed in the fund's prospectus Dollar cost averaging transactions, no-fee; minimum transaction \$100 Exchanges: \$8 per trade regardless of order size 		

III. Commission and Fee Schedule (continued)

Options

	Online TIAA.org/brokerage	Automated Telephone System (ATS) 800-842-2252	Client Service Assistance 800-927-3059
Options			
Commissions and Fees	\$7.95 + \$2.00 per contract	\$35 + \$2.00 per contract	\$55 + \$2.50 per contract
Options Exercise/Assignment	\$25	\$25	\$25

Account Maintenance Fees

Foreign Securities	\$75 for each order (not applicable to American Depositary Receipts) + commission
Foreign Security Receive and Deliver Fee	\$75
Safekeeping Fee for Physical Securities	\$2 per account, per position, per month
Transfers – Outgoing Account	\$50 per transfer
Reorganizations – Voluntary	\$25
Post-Effective Reorganizations – Voluntary	\$75



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