



Vanguard[®]

What's inside:

- Commission and fee schedules
- Transfer form
- Application
- Account application agreement

Changing Ownership of Brokerage Assets

To transfer nonretirement assets between Vanguard Brokerage Services[®] accounts

Through your Vanguard Brokerage account, you can invest in stocks, bonds, options, exchange-traded funds (ETFs), and certificates of deposit (CDs). In addition, thousands of mutual funds are readily available to you from other fund companies through Vanguard's FundAccess[®] program.

You can take advantage of all these investments through Vanguard, a firm you can trust. You won't have to access multiple websites, call multiple phone numbers, or pay multiple fees. And you can invest online, through our automated phone service, or by calling a brokerage associate for expert personal assistance.

How a Vanguard Brokerage account works

As you review this kit, you'll see that a Vanguard Brokerage account is actually a working combination of two accounts—one that holds your brokerage assets and a separate linked money market settlement fund (also known as a "sweep" account). You set up both accounts at the same time.

You pay for, and receive proceeds from, your brokerage transactions through your settlement fund.

This settlement fund is set up with The Vanguard Group, Inc.*

*Note that your settlement fund is held by The Vanguard Group, Inc., and the funds in these accounts are not protected by the Securities Investor Protection Corporation (SIPC).

An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although a money market fund seeks to preserve the value of your investment at \$1 per share, it is possible to lose money investing in such a fund.

This page is intentionally left blank

Vanguard Brokerage Services Commission and Fee Schedules

As of August 2013

Stock and exchange-traded fund (ETF) commissions

Assets invested in Vanguard funds and Vanguard ETFs	Vanguard ETFs ¹	Stocks and non-Vanguard ETFs
Less than \$50,000 (Standard) ²	Free	\$7: first 25 trades ³ \$20: subsequent trades
\$50,000–\$500,000 (Voyager Services [®])	Free	All trades: \$7
\$500,000–\$1 million (Voyager Select Services [®])	Free	All trades: \$2
\$1 million and above (Flagship Services [®])	Free	Free: first 25 trades ³ \$2: subsequent trades

¹ If you buy and sell the same Vanguard ETF in a Vanguard Brokerage account more than 25 times in a 12-month period, you may be restricted from purchasing that Vanguard ETF through your Vanguard Brokerage account for 60 days.

² A \$20 account service fee is charged annually. The fee is waived for Voyager, Voyager Select, and Flagship clients, as well as for any client who elects to receive statements and other important information electronically.

³ The reduced commission or commission-free transactions will apply to the first 25 transactions in each calendar year to any combination of stocks and non-Vanguard ETFs. The number of these transactions is limited to 25 per client, as identified by the primary Social Security number on the account. Vanguard Brokerage reserves the right to end these offers at any time.

You may receive a discount from standard commissions and fees if you're an enrolled client of Vanguard Voyager Services[®], Vanguard Voyager Select Services[®], or Vanguard Flagship Services[®]. Other discounts and fee waivers from standard commissions may also be available. A separate commission schedule may apply to certain Vanguard Flagship Services clients.

Eligibility is based on total household assets held at Vanguard, with a minimum of \$50,000 to qualify for Vanguard Voyager Services, \$500,000 for Vanguard Voyager Select Services, and \$1 million for Vanguard Flagship Services. We determine eligibility by aggregating assets of all eligible accounts held by the investor and his or her immediate family members who reside at the same address, including investments in Vanguard mutual funds, Vanguard ETFs[®], certain annuities through Vanguard, The Vanguard 529 Plan, and certain small-business accounts. Assets in employer-sponsored retirement plans for which Vanguard provides recordkeeping services may be included in determining eligibility if the investor also has a personal account holding Vanguard mutual funds. Vanguard ETFs and Vanguard mutual funds held in a Vanguard Brokerage Account are also included when determining a household's eligibility; other assets held in a brokerage account are not.

For further information, call Vanguard Brokerage Services[®] at **800-992-8327** on business days from 8 a.m. to 10 p.m. or on Saturdays from 9 a.m. to 4 p.m., Eastern time, or visit us at vanguard.com/brokerage.

Notes: We can't accept written instructions for trades. A separate commission is charged for each security bought or sold. Orders that execute over multiple days are charged separate commissions. In addition, a separate commission is charged for each order placed for the same security on the same side of the market (buying or selling) on the same day. Orders that are changed by the client and executed in multiple trades on the same day are charged separate commissions. These commission and fee schedules are subject to change.

Options

Standard	Voyager Services	Voyager Select and Flagship Services
\$20 + \$1 per options contract ⁴	\$7 + \$1 per options contract ⁴	\$2 + \$1 per options contract ^{4, 5}

⁴ For Standard Services, option exercises and assignments resulting in a stock trade will be subject to a \$20 + \$.01 per-share commission. For Voyager Services, option exercises and assignments resulting in a stock trade will be subject to a \$7 + \$.01 per-share commission. For Voyager Select and Flagship Services, option exercises and assignments resulting in a stock trade will be subject to a \$2 + \$.01 per-share commission. All option exercises and assignments resulting in a cash settlement are subject to a \$2 + \$1 per-contract commission.

⁵ For Flagship clients, options transactions are included in the offer of 25 commission-free transactions described in footnote 3. Subsequent transactions are at the rates shown in the options fee schedule.

Bonds and CDs

Vanguard Brokerage Services may act as an agent, executing your order at cost plus a commission, or as a principal, adding markups to purchase prices or subtracting markdowns from sales prices.⁶ When acting as a principal for a primary market issue, Vanguard Brokerage generally receives a fee concession from the issuer.

Security type	New issues	Existing issues
U.S. Treasury securities	Commission-free	Commission-free
U.S. government agency securities, corporate bonds, and certificates of deposit	Commission-free ⁷	Standard and Voyager Services: \$2 per \$1,000 face amount (\$250 maximum) Voyager Select and Flagship Services: \$1 per \$1,000 face amount (\$250 maximum) Selling CDs prior to maturity: Commission-free
Municipal bonds	\$50 commission if a fee concession isn't available ⁷	Standard and Voyager Services: \$2 per \$1,000 face amount (\$250 maximum) Voyager Select and Flagship Services: \$1 per \$1,000 face amount (\$250 maximum)
Mortgage-backed securities and commercial paper	\$50 per transaction	\$50 per transaction
Unit investment trusts (UITs)	Not available	Selling UITs: \$35 per transaction

⁶ Bond and CD prices are available at vanguard.com and are *price indications* only. Online prices for all secondary-market bonds and CDs are before commissions.

⁷ Minimum purchase \$10,000, subject to dealer minimum.

Mutual funds from other companies: FundAccess

Our FundAccess® program gives you entry to thousands of mutual funds offered by hundreds of fund companies. We provide funds with and without transaction fees, and we also offer load funds (see next page).

<p>No-transaction-fee (NTF) funds</p>	<p>Transaction fee</p> <p>Minimum initial investment</p> <p>Minimum additional investment</p> <p>NTF redemption fee</p> <p>Dollar-cost-averaging transactions</p>	<p>None</p> <p>For most funds: \$3,000 for nonretirement accounts and \$1,000 for IRAs⁸</p> <p>\$1,000 for any account type⁸</p> <p>1% of the proceeds (\$50 minimum, \$250 maximum) for shares held less than or equal to 180 calendar days. The holding period begins on the trade date of the purchase. Whether the NTF redemption fee applies is determined on the trade date of the redemption. The fee is waived for shares transferred from another brokerage firm or financial institution.</p> <p>No fee. Minimum purchase \$100; minimum two transactions</p>
<p>Transaction-fee (TF) funds</p>	<p>Transaction fee</p> <p>Initial and additional investments</p> <p>Dollar-cost-averaging transactions</p>	<p>Standard: \$35 Voyager® and Voyager Select®: \$20 Flagship®: \$8⁹</p> <p>Fees apply per trade—purchases, sales, or exchanges—regardless of order size. Purchase fee is added to order cost. Sales fee is subtracted from order proceeds.</p> <p>If you exchange shares of a fund for another fund in the same fund family and share class, the transaction fee will be paid from your money market settlement fund.</p> <p>\$1,000⁸</p> <p>\$3 per transaction; minimum purchase \$100; minimum two transactions</p>

⁸NTF, TF, and load funds are subject to the greater of the FundAccess minimum investment requirements or those identified in the fund's prospectus. Vanguard Brokerage Services may negotiate fund minimum investment requirements that are greater than or less than the program standards noted above.

⁹For Flagship clients, TF fund transactions are included in the offer of 25 commission-free transactions described in footnote 3. Subsequent transactions are at the rates shown in the fee schedule for TF funds above.

FundAccess

(continued)

Load funds

Class A shares	Front-end load (purchase fee)	Varies by fund or fund family and may be as high as 5.75%.
	Discounts (breakpoints)	May be available if you make a large purchase, already hold other mutual funds offered by the same fund family (individually or combined with a spouse or other qualifying person), or commit to regularly purchasing the fund's shares.
Class B shares	Back-end load (redemption fee)	Decreases to zero over a period of years. (Also known as a contingent deferred sales charge.)
Class C shares	Back-end load (redemption fee)	Smaller than a Class B redemption fee, it decreases to zero after one year. (Also known as a contingent deferred sales charge.)
All share classes	Sales charges and minimum purchases	The schedule for a specific load fund may vary, perhaps significantly, from the general description shown here. Check the fund's prospectus for details. Initial and additional investments \$1,000. ⁸
	Fees	Vanguard Brokerage doesn't charge additional fees for a purchase, sale, or exchange of any load fund offered through FundAccess.
	Dollar-cost-averaging transactions	Vanguard Brokerage doesn't charge a fee, but sales charges imposed by the fund still apply. Minimum transaction \$100; minimum two transactions.

⁸NTF, TF, and load funds are subject to the greater of the FundAccess minimum investment requirements or those identified in the fund's prospectus. Vanguard Brokerage Services may negotiate fund minimum investment requirements that are greater than or less than the program standards noted above.

Note: Individual fund families may impose additional minimums, fees, or charges. For complete information, read the fund prospectus carefully before investing. The offering conditions of the various funds included in the FundAccess program are subject to change at any time, including, but not limited to, fee classification (NTF, TF, or load) and transfer eligibility.

Fees for other services

Vanguard <i>Advantage</i> ® account	<p>Offered to clients of Voyager Select (\$30, charged annually) and Flagship (free).</p> <p>Insufficient funds: \$20. Stop payment: \$15. Checkbook reorder: Voyager Select, \$9.95; Flagship, free. Vanguard <i>Advantage</i> Billpay® service: Voyager Select, \$4.95 per month; Flagship, free.</p> <p>Possible fees at automated teller machines not affiliated with PNC Bank.</p>
Foreign securities transactions	<p>\$50 processing fee for non-DTC-eligible securities (not applicable to American Depositary Receipts) plus commission. If a trade executes over multiple days, the commission will be charged for each day on which an execution occurs. Additional fees may apply for trades executed directly on local markets.</p>
American Depositary Receipt (ADR) fees	<p>Banks that custody ADRs are permitted to charge ADR holders certain fees, as detailed in the ADR prospectuses. "Pass through" ADR fees are collected from Vanguard Brokerage Services by the Depository Trust Company (DTC) and will be automatically deducted from your brokerage account and shown on your account statement. Other fees, including dividend processing fees, may be withheld by the DTC from the amount paid by the issuer.</p>
Wire transfers	<p>Vanguard doesn't charge a fee to wire money to your bank. However, your bank may charge for receiving wires from your brokerage account or settlement fund.</p>
Miscellaneous fees	<p>Other securities transaction or maintenance fees may apply. Call us for additional information.</p>

For more information about Vanguard funds and mutual funds from other fund companies offered through Vanguard Brokerage Services, visit vanguard.com or call 800-992-8327 to obtain a prospectus. Investment objectives, risks, charges, expenses, and other important information are contained in the prospectus; read and consider it carefully before investing.

You must buy and sell Vanguard ETF Shares through a broker like Vanguard Brokerage Services (we offer them commission-free), or through another broker (you may incur commissions). See the Vanguard Brokerage Services commission and fee schedules on vanguard.com for limits. Vanguard ETFs are not redeemable directly with an applicant fund other than in creation unit aggregations. Like stocks, ETFs are subject to market volatility, so you could pay more than net asset value when buying and receive less than net asset value when selling any ETF.

All investments are subject to risk, including the possible loss of the money you invest.

Investments in bonds are subject to interest rate, credit, and inflation risk.

Options are a leveraged investment and are not suitable for every investor. Options involve risk, including the possibility that you could lose more money than you invest. Before buying or selling options, you must receive a copy of *Characteristics and Risks of Standardized Options* issued by OCC. A copy of this booklet is available at theocc.com. It may also be obtained from your broker, any exchange on which options are traded, or by contacting OCC, One North Wacker Drive, Suite 500, Chicago, IL 60606 (888-678-4667 or 888-OPTIONS). The booklet contains information on options issued by OCC. It is intended for educational purposes. No statement in the booklet should be construed as a recommendation to buy or sell a security or to provide investment advice. For further assistance, please call the Options Industry Council (OIC) helpline at 888-OPTIONS or visit optionseducation.org for more information. The OIC can provide you with balanced options education and tools to assist you with your options questions and trading.

Vanguard Brokerage Services is a division of Vanguard Marketing Corporation, member FINRA.



Transfer of Assets Between Nonretirement Brokerage Accounts Form

Effective December 2013

Use this form to move holdings between nonretirement Vanguard Brokerage Services® accounts. This includes any Vanguard mutual funds held in your linked mutual fund account. The accounts don't have to be identically registered—that is, have the same account owners and addresses.

If you have open orders on any holdings you want to move, we'll cancel those orders before moving the assets to the receiving account. After the move is complete, the new owner may contact us to reenter the orders.

Print in capital letters and use black ink.

Questions?
Call 800-992-8327.
 If you need other forms, go to vanguard.com/serviceforms.

1. Current account information

If you're moving assets from an **individual, estate, minor, or guardian** account because a current account owner is deceased, we'll automatically designate the shares as inherited, using the date of death on the death certificate. The cost basis of the shares will be updated based on the fair market value on the date of death. If you want to adjust the cost basis using an alternate estate valuation, also complete our Cost Basis Adjustment Form for Inherited Shares.

If you're moving assets from a **joint or trust** account because a current account owner is deceased, we won't automatically designate the shares as inherited or adjust the cost basis of the shares based on the fair market value on the date of death. If you want to adjust the cost basis using the fair market value on the date of death or an alternate estate valuation, also complete our Cost Basis Adjustment Form for Inherited Shares.

Vanguard account(s) you want to move holdings from

Brokerage account number	
Money market settlement fund account number	Fund name

Owner, minor, trustee, or organization representative

Provide the full, legal name. >

Name <i>first, middle initial, last</i>	
Last four digits of Social Security number or employer ID number	Zip code

Joint owner, custodian, co-trustee, or organization representative

If you need more space to list additional owners, provide the information on a separate sheet.

Provide the full, legal name. >

Name <i>first, middle initial, last</i>	
Last four digits of Social Security number or employer ID number	Zip code

2. Holdings you want to move

We'll apply the following default cost basis methods—unless you select a different method prior to the move:*

- For covered mutual funds (those acquired on or after January 1, 2012). Average cost method.
- For all other covered securities (generally those acquired on or after January 1, 2011). First in, first out method.

Important note about noncovered mutual funds (those acquired before January 1, 2012). We can only provide average cost information to you for noncovered shares. That's because we won't know which cost basis method the current owner might have used to report gains or losses to the IRS in the past or which tax lots remain in the account if the current owner sold some of the shares before 2012. Even if you indicate an acquisition date for any noncovered holdings below and/or on page 3, we can only move the basis using the average cost method.

Brokerage account *Check one.*

If you check this box, skip to page 3. >

Move all of my holdings.

If you check this box, list the holdings below. >

Move only part of my holdings.**

Note: We apply the first in, first out method to covered stock shares moving from a nonretirement account. If you'd prefer to use the specific identification method to a particular holding, attach a separate sheet, signed and dated, that includes the account number, name of holding, transfer amount, and the date you acquired the shares.

For fixed income securities, indicate the face value under "Number of shares."

If you need more space to list additional holdings, either photocopy this section or attach additional sheets as necessary. Each sheet must be signed and dated and include the account number. >

Name of holding	Number of shares	or	Amount	or	Percentage
			\$		%
Name of holding	Number of shares	or	Amount	or	Percentage
			\$		%
Name of holding	Number of shares	or	Amount	or	Percentage
			\$		%
Name of holding	Number of shares	or	Amount	or	Percentage
			\$		%
Name of holding	Number of shares	or	Amount	or	Percentage
			\$		%
Name of holding	Number of shares	or	Amount	or	Percentage
			\$		%
Name of holding	Number of shares	or	Amount	or	Percentage
			\$		%

*To set or change your preferred cost basis method for each holding prior to the move, log on to your account at vanguard.com and, from the **My Accounts** dropdown, select **Account maintenance**. Then, under **Account profile**, select **Cost basis method** and follow the instructions. Or, if you prefer, you may complete and submit our Cost Basis Method Election Form (available at vanguard.com/serviceforms).

**While we can split a position into fractional shares and move those shares, an account can't hold a position of less than one full share. Any transferred position of less than one full share will be liquidated at the closing price on the day we process the transfer, commission-free. This may create a taxable event.

Return pages 1–5 of this form, even if some sections are left blank.

Money market settlement fund *Check one, if applicable.*

<input type="checkbox"/> Move all of my settlement fund assets.		
<input type="checkbox"/> Move only part of my settlement fund assets.	Number of shares <i>or</i>	Amount <i>or</i> Percentage \$ %

Vanguard mutual fund(s) held in the same account as your money market settlement fund *Check one, if applicable.*

Move all assets in this account.

Move only the following assets.
 Note: Vanguard applies the average cost method to mutual fund shares moving from a nonretirement account.

If you need more space to list additional securities, either photocopy this section or attach additional sheets as necessary. Each sheet must be signed and dated and include the account number.

Name of fund	Fund number	Number of shares <i>or</i>	Amount <i>or</i>	Percentage
			\$ %	
			\$ %	
			\$ %	
			\$ %	

3. Account to receive your holdings

Check and complete one.

New nonretirement Vanguard Brokerage account. *Move assets to a new account.*
 Provide the information requested below and have the new owner complete our Brokerage Account Application and submit it with this form.

Provide the full, legal name. > Name of owner, minor, trustee, or organization representative *first, middle initial, last*

Last four digits of Social Security number or employer ID number

Provide the full, legal name. > Name of joint owner, custodian, co-trustee, or organization representative *first, middle initial, last*

Last four digits of Social Security number or employer ID number

	<input type="checkbox"/> Existing nonretirement Vanguard Brokerage account. <i>Move assets to the account I indicate below.</i>
	Account number
Provide the full, legal name. >	Name of owner, minor, trustee, or organization representative <i>first, middle initial, last</i>
	Last four digits of Social Security number or employer ID number
Provide the full, legal name. >	Name of joint owner, custodian, co-trustee, or organization representative <i>first, middle initial, last</i>
	Last four digits of Social Security number or employer ID number

Cost basis information for gifted shares

Vanguard is required to calculate the cost basis of the transferred securities according to the reporting rules for gifted shares. We'll deem this transfer as a gift unless any of the following are true. **Note:** We won't adjust the basis of securities for gift tax paid, if any.

Check all that apply.

<input type="checkbox"/> The transferring account and receiving account have an owner in common.	
<input type="checkbox"/> Transfers from my account to this recipient (for example, to my spouse*) are ineligible for gift-related basis adjustments.	
<input type="checkbox"/> The current account owner is deceased. (For detailed documentation requirements, refer to the instructions at the front of this form.)	
Date of death <i>mm/dd/yyyy</i>	<input type="checkbox"/> Check this box if you'd like us to return the documentation to you at the mailing address we have on file for the receiving account.

*For federal tax purposes.

You must sign on page 5.

4. Signature(s) and authorization(s) *Read carefully before signing.*

Important: A Medallion signature guarantee is required if either of the following is true:

- The registration and/or owners on the receiving account are changing or differ from the originating account.
- The authorized representative is signing on behalf of a deceased owner and the holdings aren't being moved to the estate.

If a Medallion signature guarantee is required but not provided, your transfer of assets request may be delayed. If you have any questions, call us at 800-992-8327.

By signing below, the current owner(s) and/or authorized representative(s) authorize(s) the transfer of the holdings identified in Section 2 in accordance with the terms of this form and of any additional form that Vanguard requires to complete the move.

You hereby irrevocably relinquish all rights, title, and interest to the holdings identified in Section 2. You hereby acknowledge that You have read and understand these instructions and further acknowledge that they are binding regardless of any other agreement between the recipient of these holdings and You.

If a Medallion signature guarantee is required, DO NOT sign this form until you're in the presence of the authorized officer.

Signature of owner, minor, trustee, or organization representative	Date <i>mm/dd/yyyy</i>
X	
Print name	

Signature of joint owner, full agent, co-trustee, or organization representative	Date <i>mm/dd/yyyy</i>
X	
Print name	

Medallion signature guarantee *if required*

You can get a Medallion signature guarantee from an authorized officer of a bank, broker, and many other financial institutions. A notary public CANNOT provide a signature guarantee.

Authorized officer's title	Signed guarantee stamp <i>must be original and state "signature guaranteed"</i>
Name of institution	
Date <i>mm/dd/yyyy</i>	

Return pages 1–5 of this form, even if some sections are left blank.

Mailing information

Make a copy of your completed form for your records.

Mail pages 1–5 of your completed form and any other required information in the enclosed postage-paid envelope.

If you don't have a postage-paid envelope, mail to: > Vanguard Brokerage Services
P.O. Box 1170
Valley Forge, PA 19482-1170

For overnight delivery, mail to: > Vanguard Brokerage Services
455 Devon Park Drive
Wayne, PA 19087-1815

Reminders

If you're moving assets from an account because a current owner is deceased

Complete our Cost Basis Adjustment Form for Inherited Shares and submit it with this form if you want to adjust the cost basis using a method other than what's described in Section 1.

If you're moving assets to a new Vanguard Brokerage nonretirement account

Complete our Brokerage Account Application and submit it with this form.



Brokerage Account Application

Effective July 2014

Use this application to open a nonretirement brokerage account.

Don't use this application to open a brokerage IRA.

Vanguard funds are registered for sale to U.S. residents only. You must provide your U.S. address on this application. See the most recent **Vanguard Brokerage Services® commission and fee schedules** for any fees that may apply.

Print in capital letters and use black ink.

Questions?
Call 800-992-8327.

To complete this application online, go to vanguard.com/serviceforms.

1. Type of account *Check only one.*

Verify that any registration you indicate here is valid in your state. >

If this box is checked, you must indicate a state below. >

Enter information about the organization in Section 2. >

Enter the trust information in Section 3 and the trustee information in Section 5. >

All currently serving trustees must sign in Section 12.

Enter information about the trust in Section 4. >

<input type="checkbox"/> Individual Account owned by one person.
<input type="checkbox"/> Joint Account owned by two or more people. Joint accounts will be registered as "joint tenants with right of survivorship" unless you indicate otherwise below. Joint account registration <i>e.g., tenants in common, community property</i>
<input type="checkbox"/> Uniform Gifts to Minors Act/Uniform Transfers to Minors Act (UGMA/UTMA) Account established as an irrevocable gift or transfer of assets to a minor. The assets in this account may only be used for the benefit of the minor. An adult custodian administers the account until the minor reaches the age of termination (or later age, if permitted by state law) for the state under whose law the gift or transfer is being made. State If you're opening an UGMA/UTMA account, you must provide the state under whose law the gift or transfer is being made.
<input type="checkbox"/> Guardian Account administered by a court-appointed guardian or conservator. Important: You must submit an original or certified (within 90 days) copy, with a raised seal, of the court appointment of the guardian or conservator.
<input type="checkbox"/> Organization or other entity, including estate Account owned by an entity.
<input type="checkbox"/> Trust <i>for an existing trust only</i> Account established to invest assets held in a personal or retirement trust. Note: If this is an organizational trust (such as a foundation or endowment), check the Organization or other entity box instead. For trusts under will/testamentary: You must attach copies of the pages of the will that confirm the creation of the trust and those that contain the trustee name(s) and the testator's (decedent's) signature. The pages of the will should indicate it was filed with the probate court and include a court stamp (the stamp doesn't need to be original or include a date). If the will doesn't contain a court stamp, attach a copy of Letters Testamentary or court document appointing the trustee of the trust. For all other types of trusts: You must attach copies of the pages of the trust agreement that contain the trust name and date, and a listing of the trustees' names and the signature page(s), signed by the persons who were required to sign under state law.
<input type="checkbox"/> Retirement trust account Retirement account for which Vanguard doesn't act as trustee. Important: You must send us a copy of the pages in your plan's trust agreement that show the name of the plan, the plan date, and a listing of all trustees and their signatures.

2. Organization information *organizations and other entities only*

If you check a box, you must send us a copy of the required documentation.

In most cases, you must also complete our Organization Resolution form and include a copy of the organization document identifying all authorized persons.

Registration type <i>Check one.</i>	Required documentation
<input type="checkbox"/> Corporation	Articles of incorporation, state-issued charter, or certificate of good standing. <i>Check one. If you don't check a box, we'll treat your organization as an S corporation for tax-reporting purposes.</i> <input type="checkbox"/> C corporation <input type="checkbox"/> S corporation
<input type="checkbox"/> Endowment	Pages in the trust document that show the name of the endowment and a listing of all trustees and their signatures.
<input type="checkbox"/> Estate*	Certified (within 90 days) copy of the court appointment of fiduciary, such as letters testamentary or letters of administration.
<input type="checkbox"/> Foundation	Articles of incorporation.
<input type="checkbox"/> Partnership	Partnership agreement.
<input type="checkbox"/> Professional association or corporation	Articles of association, certificate of organization, or similar document.
<input type="checkbox"/> Limited liability company (LLC)	Articles of association, certificate of organization, or similar document. <i>Check one box to indicate federal tax classification of LLC.</i> <input type="checkbox"/> C corporation <input type="checkbox"/> S corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Sole proprietorship/single member
<input type="checkbox"/> Sole proprietorship	Document filed to form the proprietorship.
<input type="checkbox"/> Unincorporated enterprise	Document evidencing the existence of the enterprise, such as the charter or resolution.
<input type="checkbox"/> Other <i>Specify type.</i>	Document filed to form the organization (if a legal entity), or organization bylaws or similar document (if not a legal entity).

Organization description *Check any that describe the organization.*

<input type="checkbox"/> Broker-dealer	<input type="checkbox"/> National bank
<input type="checkbox"/> Mutual fund	<input type="checkbox"/> State-regulated bank
<input type="checkbox"/> Government agency or instrumentality	
<input type="checkbox"/> Publicly traded on Nasdaq (except small-cap issues), NYSE, or NYSE Arca	Ticker symbol

Identity of organization

Name of organization <i>as shown on federal tax documents</i>		
Employer ID number	If organization is exempt from backup withholding, provide the applicable exempt payee code from the list at the end of this section.	Code

*For this registration type, you only need to complete our Organization Resolution form if the estate representative is an organization.

Return pages 1–14 of this form, even if some sections are left blank.

You must complete this entire section. >

Country where organization was established

U.S. Other*

Country of establishment *if not U.S.*

Tax residency

U.S. Other

Country of tax residence *if not U.S.*

Note: Enter information about the organization representative(s) in Section 5.

Exempt payee codes for organizations

If you're opening an account for an organization that's exempt from backup withholding, you must provide one of the following exempt payee codes where noted previously.

Type of organization	Exempt payee code
An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2).	1
The United States or any of its agencies or instrumentalities.	2
A state, the District of Columbia, a possession of the United States, or any of their political subdivisions, agencies, or instrumentalities.	3
A foreign government or any of its political subdivisions, agencies, or instrumentalities.	4
A corporation.	5
A dealer in securities or commodities required to register in the United States, the District of Columbia, or a possession of the United States.	6
A futures commission merchant registered with the Commodity Futures Trading Commission.	7
A real estate investment trust.	8
An entity registered at all times during the tax year under the Investment Company Act of 1940.	9
A common trust fund operated by a bank under section 584(a).	10
A financial institution.	11
A middleman known in the investment community as a nominee or custodian.	12
A trust exempt from tax under section 664 or described in section 4947.	13

The following chart shows types of payees that are exempt from backup withholding.

If the payment is for ...	Then the payment is exempt for ...
Interest and dividend payments	All exempt payees except for 7.
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they're exempt only for sales of noncovered securities acquired prior to 2012.
Payments over \$600 required to be reported	Generally, exempt payees 1 through 5.

*If the country of establishment is other than the U.S., you must complete an IRS Form W-8 electronically to certify your foreign status, and to claim treaty benefits if applicable. We'll mail you instructions for completing the electronic Form W-8 once your account has been established.

Return pages 1–14 of this form, even if some sections are left blank.

3. Trust information *trust accounts only*

Important:

- All current trustees must sign where indicated in Section 12.
- The employer ID number or Social Security number you provide below will be used for tax-reporting purposes.
- If the trustee is an organization, you must complete our Organization Resolution form and mail it with this application.

Only grantor trusts may use the grantor's SSN. All other trusts must provide an EIN. >

Name of trust <i>Provide full legal name of trust.</i>	
Employer ID number (EIN) or Social Security number (SSN)	Date of trust agreement <i>mm/dd/yyyy</i>

Type of trust *Check all that apply.*

<input type="checkbox"/> Trust under agreement <input type="checkbox"/> Trust under will/ testamentary <input type="checkbox"/> Grantor trust	Name of grantor <i>if grantor trust</i>
---	---

You must complete this entire section. >

Country where trust was established

<input type="checkbox"/> U.S. <input type="checkbox"/> Other*
Country of establishment <i>if not U.S.</i>

Tax residency

<input type="checkbox"/> U.S. <input type="checkbox"/> Other*
Country of tax residence <i>if not U.S.</i>

Note: Enter information about the trustee(s) in Section 5.

4. Retirement trust account information *for those accounts only*

Name of plan or trust agreement
Employer ID number
<input type="checkbox"/> Check here if the account is being opened for the purpose of participating in an employee benefit plan established under ERISA.

Note: Enter information about the trustee(s) in Section 5.

*If the country of establishment or tax residence is other than the U.S., you'll be required to complete either an official IRS Form W-9 on paper to certify the trust's tax status as U.S. or a Form W-8 electronically to certify the trust's tax status as foreign, and to claim treaty benefits if applicable. We'll mail you instructions once your account has been established.

Return pages 1–14 of this form, even if some sections are left blank.

5. Account owner information

You must provide all of the requested information for each person to be registered on the account. If any account owner isn't of legal adult age for the state in which he or she resides (18 for most states, 19 in Alabama and Nebraska, and 21 in Mississippi), we can't open the account (unless the account is to be opened as a custodian account for a minor and the custodian is identified on page 7).

For trust accounts. The first mailing address listed below will be the primary address for any mailings. For trusts registered under an employer ID number, only the first trustee will be given authority to consent to electronic delivery of account-related information for the trust. Notice of availability of that information will be sent only to that trustee's e-mail address.*

For organization accounts. The first mailing address listed below will be the primary address for any mailings. Only the organization representative designated on the Organization Resolution form will be given authority to consent to electronic delivery of account-related information for the entity. Notice of availability of that information will be sent only to that individual's e-mail address.

For all other accounts. The first individual listed below will be named first in the account registration. This individual's Social Security number will be used for tax-reporting purposes, and his or her address will be used for any mailings.

Important: All owners, current trustees, and executors must sign this form.

Check here if, based on the information above, the account owner is a minor.

Owner, minor, trustee, executor, or organization representative

Provide the full, legal name. >	Name <i>first, middle initial, last</i>	
	Birth date <i>mm/dd/yyyy</i>	E-mail address <i>required for electronic delivery</i>
You must complete this entire section. >	Social Security number or individual taxpayer ID number	Gender <i>optional</i> <input type="checkbox"/> Male <input type="checkbox"/> Female
	Daytime phone <i>area code, number, extension</i> <input type="checkbox"/> Mobile	Evening phone <i>area code, number, extension</i> <input type="checkbox"/> Mobile
You must provide at least one phone number. >		

You must complete this entire section. >	Citizenship <input type="checkbox"/> U.S. <input type="checkbox"/> Resident alien <input type="checkbox"/> Nonresident alien** Country of citizenship <i>if not U.S.</i>	Tax residency <input type="checkbox"/> U.S. <input type="checkbox"/> Other Country of tax residence <i>if not U.S.</i>

Mailing address *If you're a trustee, executor, or organization representative, use the trust/estate/organization address.*

Street or P.O. box	
City, state, zip	Country <i>if not U.S.</i>

*If any trustee is an organization, e-delivery is NOT available for this account.

**If the account owner is a nonresident alien, you must complete an IRS Form W-8 electronically to certify your tax status, and to claim treaty benefits if applicable. For joint accounts where both owners are foreign, both must complete a Form W-8. We'll mail you instructions for completing the electronic Form W-8 once your account has been established.

Return pages 1–14 of this form, even if some sections are left blank.

This is required if it's different from mailing address or if mailing address is a P.O. box. >

Street address *Address can be military APO or FPO. If you're a trustee, executor, or organization representative, use the trust/estate/organization address.*

Street <i>P.O. box or rural route is NOT acceptable</i>	
City, state, zip	Country <i>if not U.S.</i>

Employment of owner, trustee, executor, or organization representative

The following information is required by industry regulations. Leave blank if owner is a minor.

<input type="checkbox"/> Employed <input type="checkbox"/> Self-employed <input type="checkbox"/> Retired <input type="checkbox"/> Not employed

If you checked **Employed** or **Self-employed**, you must complete this entire section. If you don't, we won't be able to process your application. >

Occupation	
Name of employer, or nature of your business if self-employed	
Street address of employer or your business	
City, state, zip	Country <i>if not U.S.</i>

Association *Check all that apply, regardless of employment or retirement status.*

<input type="checkbox"/> I am, or my spouse is, a Vanguard employee.	
<input type="checkbox"/> Check this box if: <ul style="list-style-type: none"> • an employee of FINRA, • or a person associated with a member of a stock exchange, FINRA member firm, or a municipal securities dealer ("associated person"), • or such associated person's spouse, • or such associated person's minor children, <p>will have a financial interest in or trading/discretionary authority over this account.</p> <p>If you check this box, you must provide a letter of account approval from a compliance officer of such member firm along with this application to open this account. Failure to include the required approval letter may delay the processing of your request to open this account. Upon written request of the member firm, we will automatically send the firm duplicate copies of confirmations, statements, and other information.</p> <p>By way of example, account approval is required whenever an employee of a broker-dealer, or such employee's spouse or minor children, seeks to open an account with us, or when such employee is a custodian or trustee or granted investment authority under a power of attorney for an account. An account approval letter isn't required for FINRA, NYSE, or Vanguard employees to open an account.</p>	
<input type="checkbox"/> Check this box if you are, or if a household member is, a control person or an affiliate of a public company, as defined in SEC Rule 144 (this would include, but isn't limited to, 10% shareholders, policymaking executives, and members of the board of directors). <p>If you check this box, you must provide the names and trading symbols of the companies for which such person serves as a control person or an affiliate.</p>	
Name of company	Trading symbol

Return pages 1–14 of this form, even if some sections are left blank.

Joint owner, custodian, co-trustee, co-executor, or organization representative

If you need more space to list additional owners, copy pages 7 and 8 or provide the information on a separate sheet.

Provide the full, legal name. >	Name <i>first, middle initial, last</i>	
	Birth date <i>mm/dd/yyyy</i>	E-mail address
You must complete this entire section. >	Social Security number or individual taxpayer ID number	Gender <i>optional</i> <input type="checkbox"/> Male <input type="checkbox"/> Female
	Daytime phone <i>area code, number, extension</i> <input type="checkbox"/> Mobile	Evening phone <i>area code, number, extension</i> <input type="checkbox"/> Mobile
You must provide at least one phone number. >		

You must complete this entire section. >	Citizenship	Tax residency
	<input type="checkbox"/> U.S. <input type="checkbox"/> Resident alien <input type="checkbox"/> Nonresident alien Country of citizenship <i>if not U.S.</i>	<input type="checkbox"/> U.S. <input type="checkbox"/> Other Country of tax residence <i>if not U.S.</i>

Street address *Address can be military APO or FPO.*

Street <i>P.O. box or rural route is NOT acceptable</i>	
City, state, zip	Country <i>if not U.S.</i>

Employment of joint owner, custodian, co-trustee, co-executor, or organization representative *The following information is required by industry regulations.*

<input type="checkbox"/> Employed <input type="checkbox"/> Self-employed <input type="checkbox"/> Retired <input type="checkbox"/> Not employed

If you checked **Employed** or **Self-employed**, you must complete this entire section. If you don't, we won't be able to process your application. >

Occupation	
Name of employer, or nature of your business if self-employed	
Street address of employer or your business	
City, state, zip	Country <i>if not U.S.</i>

Return pages 1–14 of this form, even if some sections are left blank.

Association *Check all that apply, regardless of employment or retirement status.*

<input type="checkbox"/> I am, or my spouse is, a Vanguard employee.							
<input type="checkbox"/> Check this box if: <ul style="list-style-type: none"> • an employee of FINRA, • or a person associated with a member of a stock exchange, FINRA member firm, or a municipal securities dealer ("associated person"), • or such associated person's spouse, • or such associated person's minor children, <p>will have a financial interest in or trading/discretionary authority over this account.</p> <p>If you check this box, you must provide a letter of account approval from a compliance officer of such member firm along with this application to open this account. Failure to include the required approval letter may delay the processing of your request to open this account. Upon written request of the member firm, we will automatically send the firm duplicate copies of confirmations, statements, and other information.</p> <p>By way of example, account approval is required whenever an employee of a broker-dealer, or such employee's spouse or minor children, seeks to open an account with us, or when such employee is a custodian or trustee or granted investment authority under a power of attorney for an account. An account approval letter isn't required for FINRA, NYSE, or Vanguard employees to open an account.</p>							
<input type="checkbox"/> Check this box if you are, or if a household member is, a control person or an affiliate of a public company, as defined in SEC Rule 144 (this would include, but is not limited to, 10% shareholders, policymaking executives, and members of the board of directors). <p style="margin-left: 20px;">If you check this box, you must provide the names and trading symbols of the companies for which such person serves as a control person or an affiliate.</p>							
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left; padding: 2px;">Name of company</th> <th style="text-align: left; padding: 2px;">Trading symbol</th> </tr> <tr> <td style="height: 20px;"> </td> <td> </td> </tr> </table>	Name of company	Trading symbol			<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="text-align: left; padding: 2px;">Trading symbol</th> </tr> <tr> <td style="height: 20px;"> </td> </tr> </table>	Trading symbol	
Name of company	Trading symbol						
Trading symbol							

Successor custodian *if a custodian has been named*

Upon the custodian's resignation, incapacity, or death, the successor custodian will be responsible for contacting Vanguard to initiate the change in custodianship. We'll also require the successor custodian to provide certain documentation, depending on the reason behind the change.

Complete this section only if you're establishing an UGMA/UTMA account for a minor. >

Name <i>first, middle initial, last</i>
Birth date <i>mm/dd/yyyy</i>

Return pages 1–14 of this form, even if some sections are left blank.

6. Choose a money market settlement fund

Clients of Vanguard Brokerage Services need two accounts, both of which you can open by using this application:

A brokerage account to hold your securities, including stocks, bonds, options, exchange-traded funds (ETFs), certificates of deposit (CDs), and non-Vanguard funds. (Vanguard fund shares can't be held in your brokerage account.)

A Vanguard money market settlement fund* that's registered identically to your brokerage account (i.e., same owner, account type, address, and Social Security or individual taxpayer ID number). This fund, which isn't subject to a minimum balance requirement after it's established, will reflect debits (such as payments for securities) and credits (such as sales proceeds).

Money market fund selection *Choose one of the following.*

Existing money market fund *(Prime or Tax-Exempt Money Market Fund only)*

If the registration of this fund isn't identical to the registration indicated in Sections 1 through 5, a new Vanguard Prime Money Market Fund that matches the indicated registration will be established.

Money market fund name	Fund number	Account number

New money market fund

Check one below. If you don't select a fund, we'll establish your settlement fund in Vanguard Prime Money Market Fund.

Fund	Fund number
<input type="checkbox"/> Prime Money Market Fund	0030
<input type="checkbox"/> Tax-Exempt Money Market Fund	0045

*Your settlement fund is held by The Vanguard Group, Inc. The funds in this account aren't protected by the Securities Investor Protection Corporation (SIPC).

Return pages 1–14 of this form, even if some sections are left blank.

7. How you'd like to make your initial investment

Combine any of the following methods to open and fund your accounts.*

We charge a \$20 annual account service fee for each Vanguard Brokerage Account. This fee is waived for our Voyager, Voyager Select, and Flagship clients, as well as for any client who elects to receive statements and other information electronically.

Make your check payable to <i>Vanguard</i> . >	<input type="checkbox"/> By check, to be deposited in my new or existing money market settlement fund.	Check amount \$
	<input type="checkbox"/> By accessing funds in identically registered Vanguard fund accounts when I'm ready to trade. No check is enclosed.	Funds amount (approximate) \$
Complete our Brokerage In-Kind Account Transfer Form. >	<input type="checkbox"/> By transfer from a brokerage firm or other financial institution.	
Complete our Transfer of Assets Between Nonretirement Brokerage Accounts Form. >	<input type="checkbox"/> By transfer from an existing Vanguard Brokerage Account.	
Turn to "How to deposit stock certificates" on page 15. >	<input type="checkbox"/> By depositing endorsed stock certificates.	

8. Dividends and other distributions

Indicate how you want us to apply cash dividends and other cash distributions from your securities and your money market settlement fund.

Brokerage account distributions

If you don't choose an option, reinvestment-eligible distributions will be reinvested in additional shares of the security. >	<input type="checkbox"/> Reinvest earnings (at no charge) from my eligible securities in additional shares of those securities.
	<input type="checkbox"/> Deposit earnings from my securities into my money market settlement fund.

Money market fund distributions

If you don't choose an option, all distributions will be reinvested in additional fund shares. >	<input type="checkbox"/> Reinvest distributions in additional shares of the fund.
	<input type="checkbox"/> Mail my distribution checks to the address of record.

9. Checkwriting *optional*

You should receive your checkbook in two to three weeks. >	<input type="checkbox"/> I want to write checks on the money market settlement fund.	Number of signatures required on checks
	Minimum amount per check is \$250. All registered account owners must sign in Section 12 exactly as the checks will be signed. For custodial or guardian accounts, only the custodian or guardian should sign.	

Note: If you don't indicate a number, the signature of only one account owner will be required.

*Money recently added to your account by check or electronic bank transfer may not be immediately available to pay for certain brokerage transactions and may not be immediately available to withdraw from the account.

Return pages 1–14 of this form, even if some sections are left blank.

10. Bank information

Complete this section to add electronic bank transfer and wire redemption options to your money market settlement fund. This will provide you with the flexibility to move your money by phone or online between your bank account and your settlement fund.

Important: If the registrations and/or authorized signers on the bank account and your Vanguard account don't match, skip to Section 11 and complete the remainder of this application along with our Bank Transfer Service Form.

Required documentation. We must receive at least one of the following:

- A voided check or preprinted deposit slip (tape or clip below).
- A bank account statement that contains the account number and the registration of the bank account (all other information can be crossed out).
- A letter from the bank on bank letterhead, signed by a bank officer, that contains the routing number, account number, account registration, and authorized signers.

Important requirement: If the bank account is owned by and registered in the name of an organization or trust, and the name(s) of the authorized signer(s) or trustee(s) doesn't/don't appear in the registration on the voided check, preprinted deposit slip, or bank account statement, we MUST receive a letter from the bank. The letter must be on bank letterhead, be signed by a bank officer, and contain the routing number, account number, account registration, and your name(s) as the authorized signer(s) required to authorize debit and credit entries to the organization's or trust's bank account.

Check this box if you'd like Vanguard to make this the default bank account for future transaction requests.

Bank information. You must provide all of the following information.*

<input type="checkbox"/> Make this my primary bank.	
Bank name	Account type <input type="checkbox"/> Checking <input type="checkbox"/> Savings
Bank routing/ABA number <i>Enter nine digits.</i>	Bank account number
Bank account registration <i>List all names that appear on the bank account.</i>	

Voided check or preprinted deposit slip

If providing a voided check or preprinted deposit slip, tape it here. Don't staple.

J.A. Sample 123 Street Anywhere, USA 12345	BANK NAME CITY USA	87654
PAY TO THE ORDER OF _____	\$ _____	
		DOLLARS
VOID AFTER 60 DAYS		
MEMO _____		
1: 000123456:	12345678987654321:11	87654
Bank routing number	Account number	Check number

*An electronic transfer can take several days, depending on the timing of your request. The bank, savings and loan, or credit union must be a member of the ACH network, and the account type must permit electronic transfers.

Return pages 1–14 of this form, even if some sections are left blank.

11. Duplicate documentation

If you want documentation of securities transactions sent to a third party—for instance, your employer or financial advisor—complete this section.

<input type="checkbox"/> Duplicate statements <input type="checkbox"/> Duplicate confirmations	
Name of third party	
Mailing address	
City, state, zip	Country <i>if not U.S.</i>

12. Authorization of account owners

Important information about opening a new account. The Vanguard Group, Inc., and Vanguard Marketing Corporation are required by federal law to obtain from each person who opens an account certain personal information—including name, street address, and date of birth—that will be used to verify identity. If You don't provide Us with this information, We won't be able to open the account. If We're unable to verify Your identity, The Vanguard Group, Inc., and Vanguard Marketing Corporation reserve the right to close Your account or take other steps We deem reasonable.

Read the points in this section carefully, and sign on page 14 exactly as listed in Section 5. If the account is owned by a minor, only the custodian should sign.

By signing this Vanguard Brokerage Account Application (Application), You acknowledge that:

1. You have received and read a copy of the attached Vanguard Brokerage Application Agreement, which contains a **predispute arbitration agreement**. You acknowledge that Your signature signifies and constitutes Your agreement that this Account and Your relationship with Vanguard Brokerage Services (VBS®) will be governed by and consists of the terms set forth in the Vanguard Brokerage Application Agreement and incorporates by reference the terms set forth in the Vanguard Brokerage Account Agreement, which includes the Vanguard Brokerage Services commission and fee schedules, and the other disclosures, terms, and agreements relating to Your Account or to particular features or services offered in connection with Your Account, each as amended from time to time. You understand there are fees associated with establishing, maintaining, and engaging in transactions in and transferring assets out of this Account.
2. You have read and understand the money market settlement information in Section 6 of this Application and agree to and authorize the settlement terms indicated. You also acknowledge that by purchasing the applicable Vanguard money market fund, You have received and read the prospectus for that fund.
3. You, if You are using this form to add electronic bank transfer information, authorize The Vanguard Group, Inc., and Vanguard Marketing Corporation, and any affiliates or subsidiaries of either (individually or collectively, "Vanguard"), upon telephone or online request, to pay amounts representing redemptions or withdrawals made by You, or to secure payment of amounts invested by You, by initiating credit or debit entries to the bank named by You. You authorize the bank to accept any such credits or debits to Your account without responsibility for the correctness thereof. You acknowledge that the origination of ACH transactions to Your account must comply with U.S. law. You further agree that Vanguard will not incur any loss, liability, cost, or expense in connection with Your telephone or online request. You understand that this authorization may be terminated by You at any time by written notification to Vanguard and to the bank. The termination request will be effective as to Vanguard as soon as Vanguard has had a reasonable amount of time to act upon it. You represent and warrant to Vanguard that You are an owner or authorized signer on the bank account specified by You on this form and that no other owner or authorized signer of such bank account (other than the joint Vanguard account owner(s), if applicable) is required to sign in order to authorize the initiation of ACH entries to such bank account.

4. You, if You have chosen the checkwriting option, authorize Vanguard’s custodian bank to honor checks drawn by You on Your Vanguard money market settlement fund and to effect a redemption of sufficient shares in the account to cover payment of such checks. You understand that (1) this privilege may be amended or terminated at any time by the fund or the bank, and neither shall incur any liability to You for such amendment or termination, or for honoring such checks, or for effecting redemptions to pay such checks, or for returning checks that have not been accepted; (2) checks drawn on a joint account will require the signature of one registered Account Owner unless indicated otherwise in Section 9 of this Application; (3) no check shall be issued or honored, or redemption effected, for any amounts represented by shares unless payment for such shares has been made in full and any checks given in such payment have been collected through normal banking channels; and (4) this privilege is subject to all the terms and conditions stated in the Vanguard fund’s prospectus.
5. You understand that if an account is registered in more than one name, Vanguard may accept online or telephone instructions from any one of the Account Owners.
6. If You are signing as a trustee of a trust, You understand that You also must confirm the following by signing on the next page:
 - The trust is valid and in full force and effect as of the date on the next page.
 - The trustees have full authority under the trust document and applicable law to enter into investment transactions on behalf of the trust, including the purchase, sale, exchange, transfer, and redemption of mutual funds, trading in stocks, bonds, and other securities and contracts relating to same.
 - The trustees have full authority under the trust document and applicable law to engage in margin and option trading.
 - The trustees may issue general instructions.
 - The individuals listed and signing this form are all of the currently serving trustees.
7. You have full authority and legal capacity to purchase fund shares.
8. If You represent an organization, You confirm that the organization is in existence and that You have full authority to enter into investment transactions on behalf of the organization and to execute and deliver documents on its behalf.
9. If You are signing as a custodian of an UGMA/UTMA account, You acknowledge that You understand that the assets in such account legally belong to the minor for whom the account is registered and may only be used for the benefit of said minor.

For purposes of this Application and the attached Vanguard Brokerage Application Agreement, the terms “You,” “Your,” and “Account Owner” refer to each person who signs this Application. The terms “We,” “Us,” “Our,” and “VBS” refer to Vanguard Brokerage Services, a division of Vanguard Marketing Corporation, and its affiliates.

If I am a U.S. citizen, a U.S. resident alien, or a representative of a U.S. entity, I certify under penalties of perjury that:

1. The taxpayer ID number I have given on this form is correct (or I am waiting for a number to be issued to me).
2. I am not subject to backup withholding because (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding.
 Important: Cross out item 2 if You have been notified by the IRS that You are currently subject to backup withholding because You have failed to report all interest or dividends on Your tax return.
3. I am a U.S. citizen or other U.S. person (as defined by the IRS in its Form W-9 instructions).
4. The Foreign Account Tax Compliance Act (FATCA) code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

If I am not a U.S. person, I will complete the appropriate Form W-8 electronically to certify my foreign status, including my FATCA status, and to claim treaty benefits if applicable.

The IRS does not require Your consent to any provision of this document other than the certification required to avoid backup withholding.

You must sign on the next page.

NOTE THAT SECTIONS 11 AND 12 ON PAGE 2 OF THE ATTACHED APPLICATION AGREEMENT CONTAIN A PREDISPUTE ARBITRATION CLAUSE.

All those listed in Section 5 (except minors and successor custodians) must sign and date here. >

If additional signatures are required, photocopy this page.

Signature of owner, custodian, trustee, executor, or organization representative X	Date <i>mm/dd/yyyy</i>
---	------------------------

Signature of joint owner, co-trustee, co-executor, or organization representative X	Date <i>mm/dd/yyyy</i>
--	------------------------

Mailing information

Mail pages 1–14 of this application and any attached information in the enclosed postage-paid envelope.

If you don't have a postage-paid envelope, mail to: > Vanguard Brokerage Services
P.O. Box 1170
Valley Forge, PA 19482-1170

For registered or certified mail, or overnight delivery, mail to: > Vanguard Brokerage Services
455 Devon Park Drive
Wayne, PA 19087-1815

Reminders

Transferring assets from an existing VBS account. Complete our Transfer of Assets Between Nonretirement Brokerage Accounts Form and this application.

Transferring assets to VBS from another firm. Complete our Brokerage In-Kind Account Transfer Form and this application.

Options investing and margin trading. For options investing, complete our Brokerage Option Application. For margin trading, complete a Margin Account Application. Return the appropriate application(s) with this application so that we can consider any request.

Guardian account. Submit an original or certified (within 90 days) copy, with a raised seal, of the court appointment of the guardian or conservator.

For trusts under will/testamentary. You must attach copies of the pages of the will that confirm the creation of the trust and those that contain the trustee name(s) and the testator's (decedent's) signature. The pages of the will should indicate it was filed with the probate court and include a court stamp (the stamp doesn't need to be original or include a date). If the will doesn't contain a court stamp, attach a copy of Letters Testamentary or court document appointing the trustee of the trust.

For all other types of trusts. You must attach copies of the pages of the trust agreement that contain the trust name and date, and a listing of the trustees' names and the signature page(s), signed by the persons who were required to sign under state law.

Organization account. Attach a copy of the documentation required for registration and complete and submit our Organization Resolution form, if needed.

Electronic transfers and wire redemptions. If you want to add electronic bank transfer and/or wire redemption options to your account and the registrations and/or authorized signers on the bank account and your Vanguard account don't match, complete our Bank Transfer Service Form along with this application.

Return pages 1–14 of this form, even if some sections are left blank.

How to deposit stock certificates

To deposit stock certificates into your Vanguard Brokerage Account, endorse them as shown below and make a copy for your records. Then send us the certificates and Application by overnight courier or registered or certified mail with return receipt requested. (Don't include the certificates in the enclosed postage-paid envelope.)

Where to send

Endorse the securities to Vanguard Brokerage Services (of course, you remain the beneficial [actual] owner) and send them to:

Vanguard
455 Devon Park Drive
Wayne, PA 19087-1815

If any name on a stock certificate differs *in any way* from the name or names on your Vanguard Brokerage Account—for example, if John Doe is transferring stock in his name to a jointly owned brokerage account in the names of John and Mary Doe—you'll need to include a letter of instruction with this form. In addition, both the letter and the certificates must be signed by all parties in the presence of an authorized member of the Medallion signature guarantee program, described at right.

Letter of instruction

The letter of instruction tells us to deposit the certificates in your brokerage account. It must include:

- A statement such as the following: "I [We] understand that I [we] will be relinquishing title and may give up some or all ownership and rights."
- The name of the corporation, the security's CUSIP number (a unique identifier of a security), the number of shares as listed on the certificate, and the certificate number.
- The number of the account into which the stock will be deposited, if you already have an account. (Write it in the upper-right corner of each certificate.) If you're opening a new account, we'll deposit your stock once it's been approved.

Medallion signature guarantees

The letter of instruction and the certificates must be signed in the presence of an authorized officer of a bank, brokerage firm, or other acceptable financial institution that participates in the Medallion signature guarantee program to certify that signatures are genuine. A notary public can't provide a signature guarantee.

To avoid processing delays, sign (endorse) the back of each certificate exactly as the name or names appear on its face.

Certificate endorsement instructions

For Value Received _____ **[Leave this space blank.]** hereby sell, assign, and transfer unto

PLEASE INSERT SOCIAL SECURITY OR OTHER IDENTIFYING NUMBER OF ASSIGNEE

[Leave this space blank.]

PLEASE PRINT OR TYPE NAME AND ADDRESS, INCLUDING ZIP CODE, OF ASSIGNEE

[Leave this space blank.]

[Leave this space blank.]

shares of the common stock represented by the within Certificate and do hereby irrevocably constitute and appoint

1 [Fill in "Vanguard Brokerage Services."]

Attorney to transfer the said stock on the books of the within-named Corporation with full power of substitution in the premises.

2 [Fill in current date.]

Dated _____

3 [Sign your name exactly as it appears on the face of the certificate. All owners must sign.]

Signature _____

4 [Record your Vanguard Brokerage Account number (if known) on the front of the certificate, in the upper-right corner.]

This page is intentionally left blank

Vanguard Brokerage Account Application Agreement

Effective December 2, 2011

This Vanguard Brokerage Account Application Agreement (Application Agreement) relates to Your Account and is part of the Vanguard Brokerage Account Agreement (Account Agreement) between each Account Owner and Vanguard Brokerage Services (VBS). Defined terms in the Application Agreement have the same meaning as in the Account Agreement. Please read and retain for Your records.

Definition

"Retirement Account"—An Account held in a traditional or Roth individual retirement account or a Coverdell Education Savings Account (collectively, "IRA") or an employer-sponsored retirement plan.

Section 1: Scope of Agreement.

Your agreement with VBS will be governed by and consists of the terms set forth in this Application Agreement and incorporates by reference the terms set forth in the *Vanguard Brokerage Account Agreement*, which includes the *Vanguard Brokerage Services Commission and Fee Schedules*, *Vanguard Brokerage Account Application*, and the other disclosures, terms, and agreements relating to Your Account or to particular features or services offered in connection with Your Account. The Account Agreement is provided with this Application or at the opening of Your Account (the Agreement). You agree to contact VBS if You do not receive the Account Agreement. In addition, You may, in the future, receive from VBS supplemental disclosures, terms, and agreements that pertain to certain account types, features, or services. References to the Agreement include these supplemental disclosures, terms, and agreements. You agree to read the Agreement carefully and retain copies for Your records.

Section 2: Acceptance of Agreements and Disclosures.

You agree that the Agreement governs all aspects of Your relationship with VBS, including all transactions between VBS and You and all products and services now or in the future offered through VBS. VBS may rely on Your use of VBS's products and services as evidence of Your continued acceptance of the Agreement.

Section 3: Your Representations and Warranties.

You represent and warrant that: (a) You are of legal age in the state in which You live and You are authorized to enter into the Agreement; (b) You have supplied accurate information in Your Vanguard Brokerage Account Application (Account Application); (c) no one except the Account Owners listed on the Account Application (and if community property is held, the Account Owners' spouses) has an interest in the Account; (d) no additional authorizations from third parties are required for You to open the Account and effect transactions therein; (e) except as You have otherwise indicated on Your Account Application or in writing to Us, (i) You are not an employee of or affiliated with any securities exchange or member firm of any exchange, the Financial Industry Regulatory Authority (FINRA), the Municipal Securities Rulemaking Board (MSRB), or any securities firm, bank, trust company, or insurance company, and (ii) You are not a director, 10% beneficial shareholder, policy-making officer, or otherwise an "affiliate" (as defined in Rule 144 under the Securities Act of 1933) of a publicly traded Company; and (f) the Agreement, as amended from time to time, is a legal, valid, and binding obligation, enforceable against You in accordance with its terms.

Section 4: Account Handling.

VBS will automatically hold all of Your securities purchased, sales proceeds, dividends, and interest. VBS will also release Your name, address, and securities positions to companies in which You hold securities upon request, unless You notify us otherwise in writing. If You maintain more than one account at VBS, You authorize VBS to transfer assets between Your accounts when no written authorization is requested.

Section 5: Responsibility for Investment Decisions.

You agree that You and any agent under a power of attorney or Investment Advisor (if You have one) are solely responsible for investment decisions

in Your Account, including whether to buy or sell a particular security. Your obligation includes an affirmative duty to monitor and stay informed about Your Account and Your investments and respond to changes as You deem appropriate.

VBS does not have any discretionary authority or obligation to review or make recommendations for the investment of Securities and Other Property in Your Account. You acknowledge that VBS does not provide tax or legal advice.

Section 6: Payment of Indebtedness.

You agree to satisfy, promptly upon demand, any Debit Balance or other indebtedness or outstanding obligation related to Your Account, including, but not limited to, any such indebtedness that results from instructions provided to VBS by You, Your agent, or any attorney-in-fact under a power of attorney, or Investment Advisor authorized to make transactions in Your Account. We may elect anytime, with or without notice, to make any Debit Balance or other indebtedness or outstanding obligation related to Your Account immediately due and payable. Except for Retirement Accounts, We may elect anytime, with or without notice, to sell securities in any of Your brokerage accounts or in any of Your accounts with Our affiliates to satisfy any Debit Balances. For a Retirement Account, We may only sell securities in Your Retirement Account or in any of Your accounts with Our affiliates that are part of the same retirement plan to satisfy any Debit balances. You further agree to be responsible for all costs and commissions related to such sales. In addition, You agree that VBS shall be entitled to apply any dividends, capital gains payments, interest payments, or other incoming funds, such as funds that would otherwise be invested through the Vanguard Brokerage Dividend Reinvestment Program, to cover fees or other indebtedness to VBS. Debit Balances in Your Account will be charged interest in accordance with VBS's established rules and policies, as disclosed to You.

If You owe money to VBS as the result of activity in Your Retirement Account and there are other assets in that Retirement Account or that same IRA or other retirement plan that You hold at VBS or with any of Our affiliates which could fully or partially satisfy the debt, You agree that, upon VBS's written demand, You will execute all documents and/or give any oral instructions necessary to effect a transfer of such other assets, including cash, to Your VBS Retirement Account.

Section 7: Security for Indebtedness.

As security for the repayment of all present or future indebtedness owed to Us by each Account Owner, each Account Owner grants to Us a first, perfected, and prior lien on, a continuing security interest in, and right of set-off with respect to, all Securities and Other Property that is, now or in the future, held, carried, or maintained for any purpose in or through VBS, and, to the extent of such Account Owner's interest in or through, any present or future account with Us or Our affiliates in which the Account Owner has an interest. VBS may rehypothecate any Securities or Other Property held, carried, maintained, or in the possession and control of VBS. In the event of a breach or default by You under the Agreement, VBS will have the rights and remedies available to a secured creditor under all applicable laws in addition to the rights and remedies provided in the Agreement. You agree to indemnify VBS for any loss or expense that VBS may incur in enforcing its lien or any other remedies available to it, including the reasonable cost of collection. This section does not apply to assets in a Retirement Account or to IRA or other retirement plan assets held at Our affiliates.

Section 8: Liquidations.

Whenever it is necessary for Our protection or to satisfy a margin deficiency, debit, or other obligation owed Us, We may (but are not required to) sell, assign, and deliver all or any part of the property securing Your obligations, or close any or all transactions in Your Account or in any of Your accounts with Our affiliates. We may choose which property to buy or sell, which transactions to close, and the sequence and timing of liquidation. We may take such actions on whatever exchange or market and in whatever manner that We choose in the exercise of Our business judgment. You agree not to hold Us liable for the choice of which

property to buy or sell or of which transactions to close or for timing or manner of liquidation or any tax consequences from such actions. We may transfer property from any brokerage account or in any of Your accounts with Our affiliates in which You have an interest to any other brokerage accounts in which You have an interest, regardless of whether there are other Account Owners on either account, if We determine that Your obligations are not adequately secured or to satisfy a margin deficiency or other obligation. You agree to pay on demand any Account deficiencies after liquidation, whether liquidation is complete or partial.

All of the above may be done without demand for margin or notice of purchase, sale, transfer, or cancellation to You. No demand for margin or notice shall impose on VBS any obligation to make such demand or provide such notice to You in the future. Any such notice or demand is hereby expressly waived, and no specific demand or notice shall invalidate this waiver.

Section 9: Terms of Agreement.

The Agreement, and the terms contained on the Account statements and confirmations sent to You by or on behalf of VBS contain the entire understanding between You and VBS concerning the subject matter of the Agreement. In certain non-U.S. jurisdictions, We may incorporate agreements deemed appropriate and advisable under local law.

On prior or concurrent written notice to You, We may modify or rescind existing provisions or add new provisions to the Agreement. By not closing and/or continuing to use Your Account, You confirm Your agreement to abide by the Agreement, as amended from time to time. Amendments will not affect rights or obligations either of us incur before the effective date of the amendment. No prior conduct, past practice, or oral statement by any VBS employee or agent can amend or modify this written agreement.

Waivers of rights under the Agreement must be expressed in writing and signed by the party waiving the rights. A waiver will apply only to the particular circumstance giving rise to the waiver and will not be considered a continuing waiver in other similar circumstances, unless the intention to grant a continuing waiver is expressed in writing. Our failure to insist on strict compliance with the Agreement or any other course of conduct on our part is not considered a waiver of Our rights under the Agreement.

VBS can close Your Account, or terminate any feature, at any time, for any reason, and without prior notice. Such termination may include order rejections and liquidation of Your Account. You can close Your Account, or terminate any optional feature, by notifying Us in writing. VBS may automatically close accounts with zero balances. Regardless of how or when Your Account is closed, You will remain responsible for all charges, debit items, or other transactions You initiated or authorized, whether arising before or after termination. Note that a final disbursement of assets may be delayed until any remaining issues have been resolved.

Section 10: Verification.

You authorize VBS to inquire from any source, including a consumer reporting agency, as to Your identity (as required by federal law), creditworthiness, and ongoing eligibility for the Account of the Account Owners, any other person referred to on this Application, or any person whom VBS is later notified is associated with or has an interest in the Account (as well as such persons' spouses if they live in a community-property jurisdiction) at Account opening, at any time throughout the life of the Account, and thereafter for debt collection or investigative purposes. On Your written request, We will inform You whether We have obtained credit reports and, if so, We will provide You with the name and address of the reporting agency that furnished the reports.

Section 11: Required Arbitration Disclosures.

The Agreement contains a predispute arbitration clause. By signing an arbitration agreement, the parties agree as follows:

- All parties to the 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.

- Arbitration awards are generally final and binding; a party's ability to have a court reverse or modify an arbitration award is very limited.
- The ability of the parties to obtain documents, witness statements, and other discovery is generally more limited in arbitration than in court proceedings.
- 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.
- The panel of arbitrators may include a minority of arbitrators who were or are affiliated with the securities industry.
- 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.
- The rules of the arbitration forum in which the claim is filed, and any amendments thereto, shall be incorporated into the Agreement.

Section 12: Arbitration Agreement.

You agree to settle by arbitration any controversy between or among You and VBS arising out of or relating to VBS's business or the Agreement. Such arbitration will be conducted by, and in accordance with, the securities arbitration rules and regulations then in effect of FINRA or any national securities exchange that provides a forum for the arbitration of disputes, provided that VBS is a member of such national securities exchange at the time the arbitration is initiated. 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 electing the arbitration tribunal. In the event the undersigned does not make such election within five (5) days of such demand or notice, then the undersigned authorizes VBS to do so on behalf of the undersigned. The award of the arbitrator will be final and binding, and judgment on the award may be entered in any court having jurisdiction.

No person shall bring a 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 the Agreement except to the extent stated herein.

Section 13: Governing Law.

The Agreement, all transactions made in Your Account, and all matters arising in connection with the Agreement will be governed by, and construed and enforced in accordance with, the laws of the State of New York (regardless of the choice of law rules thereof).

Section 14: Electronic Copies.

The electronically stored copy of Your (or Your agent's) signature, any written instructions or authorizations, the Vanguard Brokerage Account Application, and the Agreement are considered to be the true, complete, valid, authentic, and enforceable records, admissible in judicial, administrative, or arbitration proceedings to the same extent as if the documents and records were originally generated and maintained in printed form. You agree not to contest the admissibility or enforceability of VBS's electronically stored copy of such documents in any proceeding between You and VBS.

Section 15: Information about SIPC.

To obtain information about the Securities Investor Protection Corporation (SIPC), including an explanatory SIPC brochure, please contact SIPC at www.sipc.org or 202-371-8300.

This page is intentionally left blank



Vanguard Brokerage Services
P.O. Box 1170
Valley Forge, PA 19482-1170

Connect with Vanguard® > vanguard.com > 800-992-8327

For more information, visit vanguard.com, or call 800-662-2739 for Vanguard funds and 800-992-8327 for non-Vanguard funds offered through Vanguard Brokerage Services, to obtain a prospectus. Visit our website, call 800-992-8327, or contact your broker to obtain a prospectus for Vanguard ETF Shares. Investment objectives, risks, charges, expenses, and other important information are contained in the prospectus; read and consider it carefully before investing.

Vanguard Brokerage Services is a division of Vanguard Marketing Corporation, member FINRA.