

Brokerage Commission and Fee Schedule

FEES AND COMPENSATION

Fidelity brokerage accounts are highly flexible, and our cost structure is flexible as well. Our use of “à la carte” pricing for many features helps to ensure that you only pay for the features you use.

About Our Commissions and Fees

The most economical way to place trades is online, meaning either through Fidelity.com, Fidelity Active Trader Pro,[®] or Fidelity Mobile.[®] The next most economical way is Fidelity Automated Service Telephone (FAST[®]). This automated service is available around the clock and can be accessed from a touch-tone phone.

The fees described in this document apply to the Fidelity Account,[®] Non-Prototype Retirement Accounts, Health Savings Accounts (HSAs), and Fidelity Retirement Accounts (including Traditional, Roth, Rollover, SEP-IRA, SIMPLE IRAs, and Fidelity Retirement Plans (Keogh and SE 401(k)), and inherited IRAs and inherited Keogh accounts). Note that different fee schedules generally apply for Stock Plan Services. The fees described in this document may change from time to time without notice. Before placing a trade, consider Fidelity's most recent Brokerage Commission and Fee Schedule, available at Fidelity.com or through a Fidelity representative.

STOCKS/ETFs

Online **\$4.95 per trade**

FAST[®] **\$12.95 per trade**

Rep-Assisted **\$32.95 per trade**

These commissions and fees apply to securities including, but not limited to, domestic (U.S.) equities traded on national exchanges, short sales, exchange-traded funds (ETFs), and U.S.-traded foreign securities (ADRs, or American Depository Receipts, and ORDs, or Ordinaries).¹ For details on foreign stock trading, see the Foreign Stocks section.

In addition to the commission, there is an assessment charged on all sell orders. This assessment, which typically ranges from \$0.01 to \$0.03 per \$1,000 of principal, is intended to cover what is sometimes referred to as a “regulatory fee” or “Section 31 Fee.” Fidelity remits these fees to certain self-regulatory organizations and national securities exchanges, which in turn make payment to the SEC. These fees are intended to cover the costs incurred by the government, including the SEC, for supervising and regulating the securities markets and securities professionals. Because the fees may vary over time, and because these variations may not be immediately known to Fidelity, you acknowledge and agree that Fidelity shall have the right to determine the amount of such assessment in its sole and exclusive discretion, that the assessment may differ from or exceed the actual amount of the fee applicable to your transaction, and that Fidelity may retain any such excess for its benefit.

Fidelity Brokerage Services LLC (“FBS”) and/or NFS receives remuneration, compensation, or other consideration (such as financial credits or reciprocal business) for directing orders in certain securities to particular broker/dealers or market centers for execution. The payer, source, and nature of any compensation received in connection with your particular transaction will vary based on the venue that a trade has been routed to for execution and will be disclosed upon written request to FBS. Please refer to Fidelity's customer agreement for additional information about order flow practices and to Fidelity's commitment to execution quality (http://personal.fidelity.com/products/trading/Fidelity_Services/Service_Commitment.shtml) for additional information about order routing. Also review FBS's annual disclosure on payment for order flow policies and order routing policies.

FBS has entered into a long-term, exclusive and significant arrangement with the advisor to the iShares Funds that includes but is not limited to FBS's promotion of iShares funds, as well as in some cases purchase of certain iShares funds at a reduced commission rate (“Marketing Program”). FBS receives compensation from the fund's advisor or its affiliates in connection with the Marketing Program. FBS is entitled to receive additional payments during or after termination of the Marketing Program based upon a number of criteria, including the overall success of the Marketing Program. The Marketing Program creates significant incentives for FBS to encourage customers to buy iShares funds. Additional information about the sources, amounts, and terms of compensation is described in the ETF's prospectus and related documents.

Free commission offer applies to online purchases of Fidelity ETFs and select iShares ETFs in a Fidelity brokerage account. The sale of ETFs is subject to an activity assessment fee (of between \$0.01 and \$0.03 per \$1,000 of principal).

NEW ISSUE

Fidelity makes certain new issue products available without a separate transaction fee. Fidelity may receive compensation for participating in the offering as a selling group member or underwriter. The compensation Fidelity receives from issuers when acting as both underwriter and selling group member is reflected in the “Range of Fees from Underwriting” column. When Fidelity acts as underwriter but securities are sold through other selling group members, Fidelity receives the underwriting fees less the selling group fees.

Securities	Range of Fees from Participation in Selling Group	Range of Fees from Underwriting
IPOs	• 3% to 4.2% of the investment amount	• 5% to 7% of the investment amount
Follow-Ons	• 1.8% to 2.4% of the investment amount	• 3% to 4% of the investment amount

Please refer to the applicable pricing supplement or other offering document for the exact percentage sales concession or underwriting discount.

OPTIONS

Online **\$4.95 per trade** + 65¢ per contract

FAST[®] **\$12.95 per trade** + 65¢ per contract

Rep-Assisted **\$32.95 per trade** + 65¢ per contract

Buy-to-close trades: commission-free online when the contract price is 10¢ or less; regular online stock rates apply when the contract price is 11¢–65¢; or regular options rates (as above) apply when the contract price exceeds 65¢.

Maximum charge: 5% of principal (subject to a minimum charge of \$4.95 for Online trades, \$12.95 for FAST trades, and \$32.95 for Rep-Assisted trades).

Exercises and assignments: regular online stock rates apply.

Multi-Leg Option orders are charged only one base commission, plus a per contract charge for the total number of contracts executed in the trade.

The Options Regulatory Fee applies to both option buy and sell transactions. This fee is in addition to your commission, and is included on your trade confirmation in the Activity Assessment Fee. The cumulative fee charged by participating options exchanges is \$0.0417 per contract and is subject to change at any time. In addition, other options exchanges may decide to impose similar fees. If so, these fees will also be included in the Activity Assessment Fee. All fees collected by Fidelity are passed on to the appropriate regulatory body to meet this requirement.

BONDS AND CDs

New Issues, Primary Purchases (all other fixed-income securities except U.S. Treasury)

Fidelity makes certain new issue products available without a separate transaction fee. Fidelity may receive compensation from issuers for participating in the offering as a selling group member and/or underwriter. The compensation Fidelity receives from issuers when acting as both underwriter and selling group member is reflected in the “Range of Fees from Underwriting” column. When Fidelity acts as underwriter but securities are sold through other selling group members, Fidelity receives the underwriting fees less the selling group fees.

¹A Financial Transaction Tax of 0.30% of principal per trade on purchases of French securities and 0.10% of principal per trade on purchases of Italian securities may be assessed.

BONDS

Securities	Range of Fees from Participation in Selling Group	Range of Fees from Underwriting
Agency/GSE	N/A	• 0.05% to 1.00% of the investment amount
Corporate Notes	• 0.01% to 2.5% of the investment amount	• 0.01% to 3.0% of the investment amount
Corporate Bond	• 0.01% to 2.5% of the investment amount	• 0.05% to 3.0% of the investment amount
Municipal Bonds and Taxable Municipal Bonds	• 0.1% to 2% of the investment amount	• 0.1% to 2.5% of the investment amount
Structured Products (Registered Notes)	• 0.05% to 5.0% of the investment amount	N/A
Fixed-Rate Capital	• 2% of the investment amount	• 3% of the investment amount

Please refer to the applicable pricing supplement or other offering document for the exact percentage sales concession or underwriting discount.

CDs

Securities	Range of Fees from Participation in Selling Group	Range of Fees from Underwriting
CDs—CDIPs (Inflation Protected)	• 0.1% to 2% of the investment amount	• 0.1% to 2.5% of the investment amount
Structured Products (Market-linked CDs)	• 0.05% to 5% of the investment amount	N/A

U.S. Treasury, including TIPS—Auction Purchases

Online **No charge**

Rep-Assisted **\$19.95 per trade**

SECONDARY MARKET TRANSACTIONS

Mark-ups for all secondary bond (fixed-income) trades are listed below.

U.S. Treasury, including TIPS

Online **No charge**

*Rep-Assisted **\$19.95**

All Other Bonds

Online **\$1.00 per bond**

Rep-Assisted **\$1.00 per bond***

*Rep-Assisted \$19.95 minimum

Please note that a \$250 maximum applies to all trades and is reduced to a \$50 maximum for bonds maturing in one year or less.

Bond orders cannot be placed through FAST.®

The offering broker, which may be our affiliate National Financial Services ("NFS"), may separately mark up or mark down the price of the security and may realize a trading profit or loss on the transaction. If NFS is not the offering broker, Fidelity compensation is limited to the prices above.

Foreign Fixed-Income Trading

When purchasing a foreign currency-denominated fixed-income security for settlement in USD, the following additional charges will apply:

<\$1M	0.30% of principal
\$1M–\$5M	0.20% of principal
>\$5M	negotiated rate

MUTUAL FUNDS

This section only describes fees associated with your account. Fees charged by a fund itself (for example, expense ratios, redemption fees [if any], exchange fees [if any], sales charges [for certain load funds]) are in the fund's prospectus. Read it carefully before you invest.

Fidelity Funds

All Methods **No transaction fee**

FundsNetwork Funds

Through FundsNetwork,® your account provides access to over 10,000 mutual funds. At the time you purchase shares of funds, those shares will be assigned either a transaction fee (TF), a no transaction fee (NTF) or a load status. When you subsequently sell those shares, any applicable fees will be assessed based on the status assigned to the shares at the time of purchase.

Fidelity Brokerage Services LLC, or its affiliates, may receive compensation in connection with the purchase and/or the ongoing maintenance of positions in certain mutual funds in your account. FBS may also receive compensation for such things as systems development necessary to establish a fund on its systems, a fund's attendance at events for FBS's clients and/or representatives, and opportunities for the fund to promote its products and services. This compensation may take the form of sales loads and 12b-1 fees described in the prospectus, as well as program participation and maintenance fees, start-up fees, and infrastructure support paid by the fund, its investment advisor, or an affiliate.

FundsNetwork No Transaction Fee Funds.

All Methods **No transaction fee* Most NTF Funds will have no load. Certain NTF Funds will be available load waived.**

Short-term Trading Fees

Fidelity charges a short-term trading fee each time you sell or exchange shares of a FundsNetwork NTF fund held less than 60 days. This fee does not apply to Fidelity funds, money market funds, FundsNetwork Transaction Fee funds, FundsNetwork load funds, funds redeemed through the Personal Withdrawal Service, or shares purchased through dividend reinvestment. In addition, Fidelity reserves the right to exempt other funds from this fee, such as funds designed to achieve their stated objective on a short-term basis. The fee will be based on the following fee schedule:

Online **\$49.95 flat fee**

Fidelity Automated Service Telephone (FAST®): **0.5625% of principal** (25% off representative-assisted rates), maximum \$187.50, minimum \$75

Representative-Assisted: **0.75% of principal**, maximum \$250, minimum \$100

Keep in mind that the short-term trading fee charged by Fidelity on FundsNetwork NTF funds is different and separate from a short-term redemption fee assessed by the fund itself. Not all funds have short-term redemption fees, so please review the fund's prospectus to learn more about a potential short-term redemption fee charged by a particular fund.

*Fidelity reserves the right to change the funds available without transaction fees and reinstate the fees on any funds.

FundsNetwork Transaction-Fee Funds

Purchases:

Online: **\$49.95 or \$75 per purchase.** To identify any applicable transaction fees associated with the purchase of a given fund, please refer to the "Fees and Distributions" tab on the individual fund page on Fidelity.com.

FAST®: **0.5625% of principal per purchase;** minimum \$75, maximum \$187.50

Rep-Assisted: **0.75% of principal per purchase;** minimum \$100, maximum \$250

Redemptions:

Fidelity does not charge a transaction fee on any redemption of shares of a transaction-fee fund that were purchased with no load. A fund's own redemption fees may apply.

You can buy shares in a transaction-fee fund from its principal underwriter or distributor without a Fidelity transaction fee.

FundsNetwork Load Funds

A fund's sales charges may apply. Fidelity does not charge a transaction fee on a load fund. A fund's own redemption fees may apply.

FOREIGN STOCKS

Fidelity offers you two different ways to trade foreign stocks. You can utilize either Fidelity's "International Trading" functionality or its "Foreign Ordinary Share Trading" service. Depending on the service, different commissions, taxes and fees may apply as more fully described below. You can also call a Fidelity representative for further detail.

International Trading

International Trading allows customers to trade stocks from 25 countries and exchange between 16 currencies. These trades are placed using a root symbol, followed by a colon (:), and then the two-letter country code for the market the customer wants to trade in. The commission and additional charges that may apply for International Trading will vary as noted below, depending on the market and whether the trade is placed online or through a representative. Please also note that if a security trading on an exchange

in one of the markets noted below is only listed for trading in a currency other than that country's local market's currency, then the commissions and fees that will be charged will be based on the currency the security is trading in instead of the local market's currency. The list of countries, currencies, taxes and fees provided below is subject to change without notice.

Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, and Spain

Online **19 EUR per trade**
Rep-Assisted **€50 EUR per trade**

Note: There may be additional fees or taxes imposed on transactions in certain securities including: Financial Transaction Tax: **0.30% of principal per trade** on purchases of French securities and **0.10% of principal per trade** on purchases of Italian securities.

Stamp Tax **1.00% of principal per trade** on purchases of Irish securities.

Australia

Online **\$32 AUD per trade**
Rep-Assisted **\$70 AUD per trade**

Canada

Online **\$19 CAD per trade**
Rep-Assisted **\$70 CAD per trade**

Denmark

Online **160 DKK per trade**
Rep-Assisted **420 DKK per trade**

Hong Kong

Online **HK\$250 HKD per trade**
Rep-Assisted **HK\$600 HKD per trade**

Note: Additional fees or taxes imposed on transactions in Hong Kong securities include:

Transaction Levy **0.003% of principal** per trade
Trading Fee **0.005% of principal** per trade
Stamp Duty **0.10% of principal** per trade

Japan

Online **¥3,000 JPY per trade**
Rep-Assisted **¥8,000 JPY per trade**

Mexico

Online **\$360 MXN per trade**
Rep-Assisted **\$960 MXN per trade**

New Zealand

Online **\$35 NZD per trade**
Rep-Assisted **\$90 NZD per trade**

Norway

Online **kr160 NOK per trade**
Rep-Assisted **kr400 NOK per trade**

Poland

Online **90 PLN per trade**
Rep-Assisted **235 PLN per trade**

S. Africa

Online **225 ZAR per trade**
Rep-Assisted **600 ZAR per trade**

Note: Additional fees or taxes imposed on transactions in S. African securities include:

Securities Transfer Tax: **0.25% of principal** on purchases

Singapore

Online **\$35 SGD per trade**
Rep-Assisted **\$90 SGD per trade**

Note: Additional fees or taxes imposed on transactions in Singapore securities include:

Clearing fee **0.04% of principal** per trade

Sweden

Online **kr180 SEK per trade**
Rep-Assisted **kr480 SEK per trade**

Switzerland

Online **CHF25 CHF per trade**
Rep-Assisted **CHF65 CHF per trade**

United Kingdom

Online **£9 GBP per trade**
Rep-Assisted **£30 GBP per trade**

Note: Additional fees or taxes imposed on transactions in UK securities include: PTM Levy **£1 GBP** per trade where principal amount is >£10,000
GBP Stamp Duty **0.50% of principal** only on purchases

There may also be further fees, taxes, or other charges assessed when conducting transactions in foreign securities beyond those described here. Details regarding these charges are available from a Fidelity representative. These fees, taxes, and charges, if any, will be disclosed on your trade confirmation (either individually or in the aggregate) and/or may be incorporated into the execution price.

Foreign Currency Exchange

In addition to the commissions, taxes, fees, and other charges noted above, a currency exchange fee (in the form of a mark-up or mark-down **on the exchange rate**) will be charged based on the size of the currency conversion, pursuant to the following schedule:

<\$100K	1.0% of principal
\$100K-<\$250K	0.75% of principal
\$250K-<\$500K	0.50% of principal
\$500K-<\$1M	0.30% of principal
\$1M+	0-0.20% of principal

Foreign Ordinary Share Trading

Foreign Ordinary Share Trading allows customers to trade shares in foreign corporations on the over-the-counter (OTC) market using a five-character symbol ending in "F." Trades in foreign ordinary shares can be placed online or through a Fidelity representative. In either case, the domestic commission schedule for stocks/ETFs will apply. A \$50 fee will also be charged on each transaction in any foreign ordinary stock that is not Depository Trust Company eligible. Depending on the security and the market, additional charges will apply, as described below. There may also be further fees, taxes, or other charges assessed when conducting transactions in foreign securities beyond those described here. Details regarding these charges are available from a Fidelity representative. These fees and taxes, if any, will be disclosed on the trade confirmation (either individually or in the aggregate) and/or may be incorporated into the execution price.

Canada

When trading in Canadian stocks, orders are generally routed to brokers in Canada. However, dually listed Canadian stocks may be routed to a Canadian broker or U.S. market center for execution. If the order is routed to a Canadian broker, a local broker's fee of \$0.0015 CAD per share if the price of the stock is less than or equal to \$0.10 CAD, \$0.0025 CAD per share if the price of the stock is greater than \$0.10 and less than \$1 CAD, and \$0.005 per share if the price of the stock is greater than or equal to \$1 CAD, and a foreign exchange fee of up to 0.01% of the principal may also be incorporated into the execution price.

All Other Countries

For every country other than Canada, shares will be traded on the over-the-counter market through a U.S. market maker, unless you direct otherwise when you place your trade through a representative. In that situation (that is, if you direct that the transaction occur other than on the over-the-counter market), an additional foreign exchange fee of up to 0.30% of principal per trade may be incorporated into the execution price.

OTHER INVESTMENTS

Commercial Paper \$50 per transaction

Unit Investment Trusts (UITs) \$35 minimum per redemption; no fee to purchase. Fidelity makes certain new issue products available without a separate transaction fee. Fidelity receives compensation for participating in the offering as a selling group member. Fees from participating in the selling group range from 1% to 4% of the public offering price. Fidelity may also receive compensation for reaching certain sales levels, which range from 0.001%-0.0025% of the monthly volume sold.

Precious Metals

Buy	% Charged on		Sell	% Charged on	
	Gross Amount	Gross Amount		Gross Amount	Gross Amount
\$0-\$9,999		2.90%	\$0-\$49,999		2.00%
\$10,000-\$49,999		2.50%	\$50,000-\$249,999		1.00%
\$50,000-\$99,999		1.98%	\$250,000+*		0.75%
\$100,000+*		0.99%			

*delivery charges and applicable taxes if you take delivery

Fidelity charges a quarterly storage fee of 0.125% of the total value or \$3.75, whichever is greater. Storage fees are pre-billed based on the value of the precious metals in the marketplace at the time of billing.

For more information on these other investments and the cost of a specific transaction, contact Fidelity at 800-544-6666. Minimum fee per precious metals transaction: \$44. Minimum precious metals purchase: \$2,500 (\$1,000 for IRAs). Precious metals may not be purchased in a Fidelity Retirement Plan (Keogh), and are restricted to certain types of investments in a Fidelity IRA.

OTHER FEES AND COMPENSATION

All Accounts

Foreign Currency Wires up to 3% of principal; charged when converting USD to wire funds in a foreign currency

Foreign Dividends/Reorganizations 1% of principal; charged when a dividend is paid or a reorganization event occurs on a foreign asset held in an account in USD

Nonretirement Accounts

Debit Card and ATM Fees There is no annual fee for the Fidelity® Visa® Gold Check Card or the Fidelity HSA® debit card. You may be charged separate fees by other institutions, such as the owner of the ATM. Note: You cannot use the Fidelity HSA® debit card at an ATM.

If you qualify for Premium, Private Client Group, or have household annual trading activity of 120 or more stock, bond, or options trades, Fidelity will reimburse itemized domestic fees charged when using the card at ATMs displaying the Visa®, Plus®, or Star® logos. Eligibility for these fee waivers and reimbursements is determined based on asset levels as of the end of each business day, and will be applied the following day. If your eligibility changes, your account may be charged the applicable fees without notice. Any reimbursements will be credited to your account the same day an ATM fee is debited from the account. In rare instances, ATM owners may not itemize fees, which may cause disruption of individual automatic rebates. Should this occur, please contact Fidelity. Note: There is a foreign transaction fee of 1% that is not waived or reimbursed, and will be included in the amount charged to your account.

The Fidelity® Visa® Gold Check Card and Fidelity HSA® debit card are issued by PNC Bank, NA, and administered by BNY Mellon Investment Servicing Trust Company, which are not affiliated with Fidelity.

Transfer and Ship Certificates \$100 per certificate; applies only to customers who have certificate shares reregistered and shipped; waived for households that meet certain asset and trade minimums at Fidelity²

HSAs

Annual fees For Fidelity HSAs that are opened through, or serviced by, an intermediary, or in connection with your workplace benefits, Fidelity may deduct:

- an administrative fee of up to \$12 per quarter (\$48 annually) from your Fidelity HSA, unless it is paid by your employer (may be waived for households that were established before a certain date and meet certain asset minimums at Fidelity); and
- a Close Account fee of \$25 per account.

Fee and Trading Policies

Commissions will be charged per order. For commission purposes, orders executed over multiple days will be treated as separate orders. Unless noted otherwise, all fees and commissions are debited from your core account.

Fee Waiver Eligibility

To determine your eligibility for fee waivers, we group the assets and trading activity of all of the eligible accounts shown on your periodic account statement.

Eligible accounts generally include those maintained with Fidelity Service Company, Inc., or FBS [such as 401(k), 403(b), or 457 plan assets] or held in Fidelity Investments Life Insurance Company accounts, Fidelity Portfolio Advisory Service® or Fidelity® Personalized Portfolios accounts. Assets maintained by Fidelity Personal Trust Company, FSB, are generally not included. We may include other assets at our discretion.

We will review your account periodically to confirm that your household is receiving the best fee waivers it qualifies for, and may change your fee waiver eligibility at any time based on these reviews. We update fee waiver eligibility across household accounts promptly after a daily review of trading activity, and monthly after a review of household assets. All trading activity is measured on a rolling 12-month basis.

If you believe there are eligible accounts within your household that are not being counted in our fee waiver eligibility process—for example, accounts held by immediate family members who reside with you—you may authorize Fidelity to consolidate these accounts into an aggregated relationship household and review them for eligibility. Any resulting fee waivers would extend both to you and to all immediate family members residing with you. Most customers receive only a single customer reporting statement from Fidelity and do not need to take any action. However, for more information, go to Fidelity.com/goto/commissions or call us at 800-544-6666.

Limits on Feature Eligibility

Retirement accounts and Fidelity BrokerageLink® accounts cannot trade foreign securities or sell short, are not eligible for margin loans, and may be subject to other rules and policies. Please see the literature for these accounts for details.

Prospectuses and Fact Sheets

Free prospectuses are available for UITs, Fidelity funds, and Fidelity FundsNetwork® funds. Fact sheets are available for certificates of deposit. To obtain any of these documents, and for other information on any fund offered through Fidelity, including charges and expenses, call 800-544-6666 or visit Fidelity.com.

Margin Fees

Understanding how margin charges are calculated is essential for any investor considering or using margin. The information below, provided in conformity with federal securities regulations, is designed to help you understand the terms, conditions, and methods associated with our margin interest charges.

For all margin borrowing—regardless of what you use it for—we charge interest at an annual rate that is based on two factors: our base rate, and your average debit balance. We set our base rate with reference to commercially recognized interest rates, industry conditions regarding margin credit, and general credit conditions. The table below shows the premiums and discounts we apply to our base rate depending on the average debit balance:

Interest Charged

Average Debit Balance	Interest Charged Above/Below Base Rate
\$0–\$24,999.99	+1.250%
\$25,000–\$49,999.99	+0.750%
\$50,000–\$99,999.99	–0.200%
\$100,000–\$249,999.99	–0.250%
\$250,000–\$499,999.99	–0.500%
\$500,000–\$999,999.99	–2.825%
\$1,000,000+	–3.075%

In determining your debit balance and interest rate, we combine the margin balances in all your accounts except short accounts and income accounts. We then compute interest for each account based on the rate resulting from averaging the daily debit balances during the interest period. Interest is charged from the date we extend you credit.

Your rate of interest will change without notice based on changes in the base rate and in your average debit balance. When your interest rate is increased for any other reason, we will give you at least 30 days' written notice. If the base rate is stated as a range, we may apply the high end of the range.

²Households with \$1 million or more in assets or \$25,000 or more in assets + 120 trades a year. For details, see Fee Waiver Eligibility section above.

For any month where your monthly margin charges are \$1 or more, your monthly statement will show both the dollar amount and the rate of your interest charges. If your interest rate changed during the month, separate charges will be shown for each rate. Each interest cycle begins the first business day following the 20th of each month.

Other Charges

You may be assessed separate interest charges, at the base rate plus two percentage points, in connection with any of the following:

- Payments of the proceeds of a security sale in advance of the regular settlement date (such prepayments must be approved in advance)
- When the market price of a "when-issued" security falls below your contract price by more than the amount of your cash deposit
- When payments for securities purchased are received after the settlement date

How Interest Is Computed

Interest on debit balances is computed by multiplying the average daily debit balance of the account by the applicable interest rate in effect and dividing by 360, times the number of days a daily debit balance was maintained during the interest period.

Marking to Market

The credit balance in the short account will be decreased or increased in accordance with the corresponding market values of all short positions. Corresponding debits or credits will be posted to the margin account. These entries in the margin account will, of course, affect the balance on which interest is computed. Credits in your short account, other than marking to market, will not be used to offset your margin account balance for interest computation.

Addendum to Brokerage Commission and Fee Schedule

FundsNetwork®

FBS and/or NFS has contracted with certain mutual funds, their investment advisors, or their affiliates and certain ETF investment advisors to receive other compensation in connection with the purchase and/or the ongoing maintenance of positions in certain mutual fund shares and ETFs in your brokerage account. This additional annual compensation may be paid with respect to the mutual fund by the mutual fund, its investment advisor, or one of its affiliates and with respect to the ETF by its investment advisor or its affiliates.

- FundsNetwork No Transaction Fee (NTF) Funds and ETFs
 - For funds participating in the NTF program and certain ETFs, Fidelity receives compensation that typically ranges from 35 to 40 basis points based on the average daily balance. As of 12/31/2017, 89% of the mutual funds currently in the NTF program are in the 35–40 basis point range.
- FundsNetwork Transaction Fee (TF) Funds
 - For funds participating in the TF program, Fidelity receives compensation based on: (1) per-position fees that typically range from \$3 to \$19 per brokerage account or (2) asset-based fees that typically range from 8 to 12 basis points based on average daily assets. As of 12/31/2017, 88% of the mutual funds participating in the TF program are in the \$12–\$19 per-position-fee range or 8 to 12 basis point range. TF compensation is in addition to any 12b-1 fees as described in the fund's prospectus.
- Fidelity may receive a fee from unaffiliated product providers to compensate Fidelity for maintaining the infrastructure to accommodate unaffiliated products. The fee is a fixed amount that typically equates to less than 0.05% of a product provider's assets in all retail, workplace, and intermediary channels maintained by Fidelity, and does not vary based on a plan's offering of an unaffiliated product supported by Fidelity. In addition, such unaffiliated product providers may pay Fidelity initial start-up fees, product add, and maintenance fees as well as a provider minimum monthly fees. As this fee is not in connection with Fidelity's services to the plan, they should not be considered indirect compensation under the 408(b)(2) regulation.
- Fidelity may receive a payment from American Fund Distributors (AFD) for among other things, to compensate Fidelity for providing them access to financial intermediaries and investors in certain Fidelity channels, a platform to support the provision of investment guidance and service to such financial intermediaries and investors, when applicable, and to promote operational efficiencies. As described in American Fund prospectuses, AFD has discretion as to the amount of the payment, if any; the criteria to determine any payment includes sales, assets, and cash flows as well as qualitative factors. It is anticipated that the payment would not exceed .08% annually of American Fund assets in all retail, workplace and intermediary channels maintained by Fidelity, subject to certain exclusions.
- Fidelity may receive an annual product fee of up to \$2,000 if aggregate assets held in that product across all retail, workplace and intermediary channels maintained by Fidelity are less than \$1.5 million.
- If you would like more information on any of the mutual funds in the FundsNetwork program, please call Fidelity at 800-544-5373.

Use of funds held overnight

FBS is the introducing broker-dealer for Fidelity brokerage accounts ("Accounts"). Its affiliate, NFS, provides clearing and other related services on Accounts. As compensation for services provided with respect to Accounts, NFS receives use of: amounts from the sale of securities prior to settlement; amounts that are deposited in the Accounts before investment; and disbursement amounts made by check prior to the check being cleared by the bank on which it was drawn. Any of the above amounts will first be netted against outstanding Account obligations. The use of such amounts may generate earnings (or "float") for NFS or instead may be used by NFS to offset its other operational obligations. Information concerning the time frames during which NFS may have use of such amounts and rates at which float earnings are expected to accrue is provided as follows:

- (1) Receipts. The deposit of amounts that settle from the sale of securities or that are deposited into an Account (by wire, check, ACH [Automated Clearing House] or other means) will generally be purchased into the Account's core sweep vehicle by close of business on the business day that NFS receives such funds. NFS gets the use of such amounts from the time it receives funds until the core sweep vehicle purchase settles on the next business day. Note that amounts disbursed from an Account (other than as referenced in Section 2 below) or purchases made in an Account will result in a corresponding "cost" to NFS. This occurs because NFS provides funding for these disbursements or purchases one day prior to the receipt of funds from the Account's core sweep vehicle. These "costs" may reduce or eliminate any benefit that NFS derived from the receipts described previously.
- (2) Disbursements. NFS gets the use of amounts disbursed by check from Accounts from the date the check is issued by NFS until the check is presented and paid.
- (3) Float Earnings. To the extent that such amounts generate float earnings, such earnings will generally be realized by NFS at rates approximating the Effective Federal Funds Rate.

Fidelity Retirement Plan Accounts (including Profit Sharing, Money Purchase, and Self-Employed 401(k) plans) for Customers who Reside Outside the United States

If you reside outside the United States in any country other than Canada (as described in the Residing Outside of the United States section of the Fidelity Brokerage Retirement Customer Account Agreement ["Agreement"]), deposits to your Fidelity retirement account will be held in the Intraday Free Credit Balance as more fully described in the Agreement. Any interest paid as a result of the Intraday Free Credit Balance will be labeled "Credit Interest" in the Activity section of your account statement. To the extent such amounts generate earnings, such earnings will be realized by NFS at rates approximating the Effective Federal Funds Rate. NFS's compensation is the amount of earnings reduced by any interest paid to Accounts.