

Supplemental Fees and Compensation Schedule

The fees and compensation earned by Fidelity Brokerage Services LLC ("FBS") and/or its affiliate National Financial Services LLC ("NFS"), collectively "Fidelity," as described herein are provided as additional information to help satisfy the Department of Labor service provider fee disclosure requirements. The disclosure requirements apply to qualified plans that are subject to Title 1 of ERISA. Note that if the qualified retirement plan covers "owner only," where you and/or your spouse are the only participant(s), your plan is not subject to Title 1 of ERISA. Qualified retirement plans are typically held at Fidelity in a Non-Prototype Retirement account or a Fidelity Retirement Plan account.

The following information is current as of 12/29/2017 and may be subject to change. For more information about fees and compensation, including any fees and commissions that are paid directly from your account, or specific rates and values, contact your Authorized agent/Advisor. Refer to the Brokerage Account Client Agreement or Retirement Account Client Agreement, as applicable, for more information about the services that Fidelity provides to your plan account.

Stocks

Fidelity receives remuneration, compensation, or consideration for directing orders in equity 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. Review Fidelity's annual disclosure on payment for order flow policies and order routing policies. If you require further information in advance of a transaction, contact your Authorized agent/Advisor.

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 minus the Selling Group fees.

Securities	Range of Fees from participating 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

* A Follow-on is an issuance of stock subsequent to the company's initial public offering.

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

Bonds and Certificates of Deposit (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 minus the Selling Group fees.

BONDS

Securities	Range of Fees from participating in Selling Group	Range of Fees from Underwriting
Agency/GSE	N/A	0.05% to 1% of the investment amount
Corporate Notes	0.01% to 2.5% of the investment amount	0.01% to 3% of the investment amount
Corporate Bonds	0.01% to 2.5% of the investment amount	0.05% to 3% 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	0.05% to 5% of the investment amount	N/A
Preferred Securities	2% of the investment amount	2% to 3% of the investment amount

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

CDs

Securities	Range of Fees from participating in Selling Group	Range of Fees from Underwriting
CDs, including CDIPs (inflation protected)	0.1% to 2% of the investment amount	0.1% to 2.5% of the investment amount
Structured Products	0.05% to 5% of the investment amount	N/A

Secondary Market Bond Transactions

The offering broker, which may be NFS, may separately mark up or mark down the price of the security and may realize a trading profit or loss on the transaction. Compensation may be used to offset expenses incurred in trade processing and may not result in a profit to the firm. If NFS is not the offering broker, Fidelity compensation is limited to the prices above.

Mutual Funds, Alternative Investment Funds and ETFs

Fidelity may receive fees from unaffiliated product providers to compensate Fidelity for maintaining the infrastructure to accommodate unaffiliated products across all retail, workplace and intermediary Fidelity channels ("Infrastructure Fees"). Infrastructure Fees are based on a variety of factors, including the complexity of the product provider's offering supported by Fidelity and are offset by other payments Fidelity receives from the unaffiliated providers. Fidelity may also receive certain annual firm maintenance fees and other fees when new product providers and products are added to the platform. As such fees (Infrastructure Fees, firm maintenance, and add fees) are not in connection with Fidelity's services to the plan, such fees should not be considered indirect compensation under the 408(b)(2) regulation. Fidelity may also receive annual payments from other fund families, including American Funds Distributors ("AFD"), to compensate Fidelity for other services, including providing access to financial intermediaries and investors in certain Fidelity channels and providing a platform to support the provision of investment guidance and service to financial intermediaries and investors, and promoting operational efficiencies. It is anticipated that payments from AFD would not exceed .08% annually of American Fund assets in all retail, workplace and intermediary channels maintained by Fidelity, subject to certain exclusions.¹

Fidelity has contracted with certain mutual funds and other investment products, their investment advisors or their affiliates in connection with access to, purchase or redemption of, and/or the ongoing maintenance of positions in mutual fund shares and other investment products ("funds"). Some funds, or their affiliates, pay Fidelity sales loads and 12b-1 fees described in the prospectus or other offering documents as well as additional compensation for shareholder services, advisor education, and other programs. Fidelity may receive annual product maintenance fees of up to \$2,000, and may charge certain fund families a minimum monthly payment of \$500-\$1,000 per fund.

No Transaction Fee (NTF) Funds and ETFs

For funds participating in the NTF program and certain ETFs, Fidelity typically receives compensation that can range from 1 to 100 basis points (bps) based on average daily assets. As of 12/31/2017, 32% of the mutual funds currently in the NTF program are in 15 basis point range and 62% of the mutual funds currently in the NTF program are in the 35 to 40 basis point range. As of 12/31/2017, 41% of assets held in these funds are in the 15 basis point range, 53% of assets held in these funds are in the 35 to 40 basis point range and less than 1% of assets are in the range above 50 basis points. Alternative investment funds compensate at a maximum of 50 basis points.

All or a portion of NTF compensation may be funded with 12b-1 or shareholder service fees as described in the fund's prospectus.

Transaction Fee (TF) Funds

For funds participating in the TF program, Fidelity receives compensation based on: (1) per-position fees that typically range from \$6 to \$19 per brokerage account, or (2) administrative fees of 1 to 15 basis points based on average daily assets. As of 12/31/2017, (1) 96% of the mutual funds participating in the TF program that have a position-based fee are in the \$10-\$19 per-position fee range and (2) 87% of the mutual funds participating in the TF program that have an asset-based fee are in the 5 to 10 basis point range.

TF compensation is in addition to 12b-1 or shareholder service fees as described in the fund's prospectus.

If you would like more information, call your Authorized agent/Advisor.

¹ As described in American Funds 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.

Clearing, custody and other brokerage services may be provided by National Financial Services LLC or Fidelity Brokerage Services LLC, Members NYSE, SIPC, 200 Seaport Blvd., Boston, MA 02210.

Compensation Paid to Fidelity by Your Authorized Agent/Advisor

Fidelity may receive compensation from your Authorized agent/Advisor based on either assets held in your account or trading activity performed in your account by you or your Authorized agent/Advisor. Refer to the Asset-Based Pricing Supplement and contact your Authorized agent/Advisor to obtain specific details about the rates of compensation paid to Fidelity.

Other Investments

Unit Investment Trusts

NFS makes certain new issue products available without a separate transaction fee. NFS may receive compensation for reaching certain sales levels, which range from 0.001% to 0.0025% of the monthly volume sold.

Other Fees and Compensation

Use of Funds Held Overnight

FBS is the introducing broker/dealer on brokerage account(s) held by your retirement plan ("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.** 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 invested in the Account's core sweep vehicle by close of business on the business day following NFS's receipt of 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 Number 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 the Fidelity Self-Employed 401(k) plans) for Customers that Reside Outside the United States

If you reside outside the United States in any country other than Canada (as described in the Core Options for Non-U.S. Customers section of the Retirement Customer Account Agreement ("Agreement")), deposits to your retirement account may be held in the Intra Day Free Credit Balance as more fully described in the Agreement. Any interest paid as a result of the Intra-day 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.