



BNY MELLON

Hedging Market-Based Nonqualified Deferred Compensation Plans

OCTOBER 2019

EXECUTIVE SUMMARY

- A deferred compensation plan is an arrangement between a plan sponsor (the employer) and an executive (the employee) under which a part or all of the executive's salary and/or bonus is deferred until a future date. A nonqualified deferred compensation plan typically permits an executive to defer these amounts on a pre-tax basis and earn market-based notional (hypothetical) returns on the deferred amounts.
- An estimated 92% of Fortune 1000 companies now offer nonqualified deferred compensation (NQDC) plans¹. NQDC plans help attract and retain talent, and can create economic value. Executives enjoy the benefit of deferring taxes, and companies get access to additional capital that can be invested in the core business, or be used to pay down expensive debt or initiate a share repurchase program.
- NQDC plans can also, however, create volatility in a company's income statement. Executives generally choose from a menu of market-based "notional" investments similar to the company's 401(k) plan. As the notional investments rise or fall, the company's compensation expense is directly impacted. This can result in a company missing earnings projections and require detailed explanations of unbudgeted executive compensation in financial statements and to a company's analysts. Many companies choose to hedge their plan to minimize this risk.
- Historically, companies have hedged this market risk by buying on-balance sheet taxable securities (like mutual funds) or Corporate-Owned Life Insurance (COLI).
- In recent years, however, more and more large companies—including Microsoft, Cisco, BNY Mellon, and many others²—have begun hedging with a Total Return Swap (TRS).
- A recent study by Columbia Business School found that in one case, the net present value of switching to the TRS was so large that it could have paid for two-thirds of the compensation owed to executives under the NQDC plan.³
- This value comes largely from the fact that the TRS frees up capital that can earn higher returns in the company's core business, but it also offers optimal accounting treatment (eliminating volatility not just in Net Income but in Compensation Expense and Operating Income), its gains are tax-deferred, and it hedges with minimal or no tracking error.
- Taken together, this strategy can materially reduce the costs of an NQDC plan without making any changes to plan benefits, administration, or design.

This white paper provides a detailed overview of each NQDC funding/hedging strategy, looking specifically at the economic value, accounting treatment, tax treatment, and hedge accuracy of each.

This white paper is for illustrative purposes only and does not purport to show actual results. Because the data herein is estimated and based on a number of assumptions, economic and market conditions, models or other factors, this data is subject to significant revision and may change materially with changes in any of the foregoing. Neither Atlas Benefit Finance LLC nor BNY Mellon undertakes to provide recipients hereof with updates or changes to the data contained in this white paper as such assumptions, economic and market conditions, models or other factors change.

The investment strategies contained herein may not be suitable for all investors. Investors should consult their own investment, financial, legal, tax and/or accounting advisers to determine whether any product(s) referred to in this white paper is/are appropriate and/or suitable for their purposes.

Investment products referenced in this white paper are not insured by the FDIC (or any other state or federal agency), are not deposits of or guaranteed by BNY Mellon or any bank or non bank subsidiary thereof, and are subject to investment risk, including the loss of principal amount invested.

¹ <https://www.cfo.com/content/uploads/2017/08/Maximizing-the-Value-of-Executive-Deferred-Compensation-Plans-by-Hedging-Market-Risk.pdf> and <https://www.cfo.com/compensation/2017/08/how-to-boost-the-value-of-deferred-comp-plans-nqdc/>

² <http://atlasfinancialpartners.com/clients.html>

³ <https://www.cfo.com/content/uploads/2017/08/Maximizing-the-Value-of-Executive-Deferred-Compensation-Plans-by-Hedging-Market-Risk.pdf>

Material (including any financial model) contained within this white paper is intended for general informational and illustrative purposes only and is not intended to provide legal, investment, financial, tax or accounting advice on any matter, and is not to be used as such. To the extent this white paper is deemed to be a financial promotion under non-US jurisdictions, it is provided for use by professional investors only and not for onward distribution to, or to be relied upon by, retail investors. This white paper, and the statements contained herein, are not an offer or solicitation to buy or sell any products (including securities and financial products) or services mentioned or an endorsement thereof in any jurisdiction or in any circumstance that is otherwise unlawful or not authorized and should not be construed as such. The material contained within this white paper is not intended for distribution to, or use by, any person or entity in any jurisdiction or country in which such distribution or use would be contrary to local law or regulation. BNY Mellon makes no representation as to the accuracy, completeness, timeliness, merchantability or fitness for a specific purpose of the information provided in this white paper.

Any U.S. federal tax discussion included in this communication was written to support the marketing of the transaction described herein and is not intended or written to be used, and cannot be used as tax advice or, for the purpose of avoiding U.S. federal tax penalties. Prospective investors should seek advice based on their own particular circumstances from an independent tax advisor.

Trademarks and logos are the property of their respective owners.

The methods and products disclosed in this presentation are covered by one or more of the following: U.S. Patent No. 6,766,303, United States Patent No. 8,290,849, and/or pending U.S. patent applications.

Neither BNY Mellon nor Atlas Benefit Finance LLC assume any liability whatsoever for any action taken in reliance on the information contained in this white paper, or for direct or indirect damages resulting from use of this white paper, its content, or services. Reproduction, distribution, republication and retransmission of material contained in this white paper is prohibited unless the prior consent of BNY Mellon has been obtained.

TRADITIONAL METHODS USED TO HEDGE NQDC PLANS

Taxable Investments (Mutual Funds)

Approach: Hedge the NQDC plan liability using taxable investments like mutual funds which informally pre-fund the deferral obligation.

Accounting Treatment: FASB Statement 115 (FAS 115) addresses the accounting for investments in equity securities that have readily determinable fair values, and for all investments in debt securities. Debt and equity securities that are bought and held principally for the purpose of selling them in the near future are reported at fair value, with realized and unrealized gains and losses included in Investment or Other Income. This is the method generally used for mutual funds held as a hedge to NQDC plan liabilities.

Accounting Geography Note: Changes to the NQDC liability are recorded in Compensation Expense. Since income or earnings on mutual funds are typically recorded in Other Income, they do not eliminate volatility in Compensation Expense or Operating Income.

Tax Treatment: If a company purchases mutual funds, any realized investment earnings are currently taxable to the company.

Economic Impact: Hedging using taxable investments is expensive for two reasons. First, it ties up capital that could earn higher returns in the company's core businesses. Second, the promise to the employee is credited with tax deferred earnings while the hedge investments are subject to taxation on realized gains and income as incurred on the investments. Taxable events occur whenever the company moves funds from one investment to another in response to employee decisions to rebalance his or her deferred account, resulting in an out-of-pocket cost to the company.

Hedge Accuracy: Mutual Funds typically can hedge NQDC plans with great accuracy.

Corporate-Owned Life Insurance (COLI)

Approach: COLI is often described as a portfolio of investments within a life insurance wrapper. In exchange for paying insurance-related fees, it allows companies to generate earnings tax-free.

Accounting Treatment: If a company acquires COLI, the policy is reported on the company's balance sheet under the "cash surrender value" method. FASB Accounting Standards Codification (ASC) Subtopic 325-30 states that "the amount that could be realized under the insurance contract as of the date of the statement of financial position should be reported as an asset." This "cash surrender value" method will allow the value of the life insurance policy to grow on the balance sheet of the company. Once the cash surrender value of a life insurance policy exceeds the premiums paid by the company, the company will be entitled to record the annual increase as a revenue item in Other Income on its income statement.

Accounting Geography Note: Changes to the NQDC liability are recorded in Compensation Expense. Since income or earnings on COLI are typically recorded in Other Income, they do not eliminate volatility in Compensation Expense or Operating Income.

Tax Treatment: As long as the company waits until it collects the death proceeds and does not surrender its COLI early, earnings on COLI are tax-free.

Economic Impact: Like taxable investments, COLI consumes capital that could otherwise be invested in the plan sponsor's core businesses. Accordingly, the opportunity cost of this hedging approach is high and the capital intensity of the hedge can make the plan expensive to offer under most cost of capital scenarios.

Hedge Accuracy: COLI is unlikely to function as a perfect hedge for a number of reasons. First, many plans allow participants to rebalance their accounts more frequently (e.g. daily) than a COLI policy administrator is willing to rebalance the COLI asset (e.g. monthly). Second, publicly available mutual funds and alternative investment funds cannot be used within insurance products; insurance-dedicated funds (IDFs) must be used. Not all funds that could be used as reference investments in an NQDC plan are available in IDF form and where proxies must be used there is the potential to incur tracking error. Third, if a company is using COLI to fund or hedge 100% of the NQDC liability, it effectively over-hedges the plan (COLI earnings are tax-free, while increases in the liability flow through the income statement after-taxes).

HEDGING NQDC PLANS WITH A TOTAL RETURN SWAP (TRS)

Taxable Investments (Mutual Funds)

Rather than buying COLI or mutual funds directly, a company can enter into a TRS with a bank. A TRS is an over the counter (OTC), bilateral financial contract where the counterparties agree to exchange (or "swap") the total return (cash flows plus capital appreciation/depreciation) of an asset or basket of assets for periodic cash flows. The company pays the bank a specified rate, currently LIBOR⁴ plus a spread, and the bank pays the company the earnings of a basket of mutual funds, ETFs or indices. The bank then will generally hedge its position with futures or by buying the asset outright.

Accounting Treatment: The TRS Hedge is marked-to-market and thus, directly offsets changes in the NQDC Plan liability on the income statement. According to ASC 815, plan sponsors are typically allowed to record gains and losses for the swap in the same income statement line item, "Compensation Expense", as the changes in the NQDC plan liability.

For example, assuming the value of the Total Return Swap is increasing, the employer would record the following entry:

Unrealized Gain on Total Return Swap (balance sheet) \$xx,xxx

Compensation Expense (income statement) (\$xx,xxx)

The employer would record the following entry for increases in the NQDC liability:

Compensation Expense (income statement) \$xx,xxx

Nonqualified Deferred Compensation Plan Obligation (balance sheet) (\$xx,xxx)

Accounting Geography Note: Unlike Mutual Funds or COLI, a company, in consultation with its accountants, typically records the fair value of the swap gains or losses in Compensation Expense. This eliminates the volatility in not just Net Income, but in Compensation Expense and Operating Income as well.

Tax Treatment: The TRS Hedge may be designated as a hedge for tax purposes and, accordingly, the tax treatment of gains, losses and costs of the TRS Hedge will match the tax characteristics of the underlying NQDC plan liability. Specifically, the plan sponsor can utilize the hedging rules under Treasury Reg. 1.1221-2(b)(2) and section 1221(b)(2) of the Code to defer the taxable event for gains/losses attributable to the swap until distributions are made to participants under the NQDC plan. In other words, taxable swap gains are allocated to each distribution and taxed in the year of each distribution which matches when the company receives the tax deduction for the distributions.

Economic Impact: The unfunded nature of the swap means that the after-tax deferred compensation is available for use by the company to invest in its operations for the duration of the deferrals. If the cost of the swap (typically a LIBOR-based rate plus a spread) is lower than the company's WACC (the rate at which the company can invest this capital back into its business) the TRS will create a positive NPV for the company.

⁴ Investment in any floating rate instrument presents unique risks, including the discontinuation of the floating rate reference or any successors or fallbacks thereto. BNY Mellon does not guarantee and is not responsible for the availability or continued existence of a floating rate reference associated with any particular instrument. Before investing in any floating rate instrument, please evaluate the risks independently with your financial, tax and other advisors as you deem necessary.

Hedge Accuracy: The TRS typically can hedge NQDC plans with great accuracy.

NQDC HEDGING PLAN STRATEGY COMPARISON

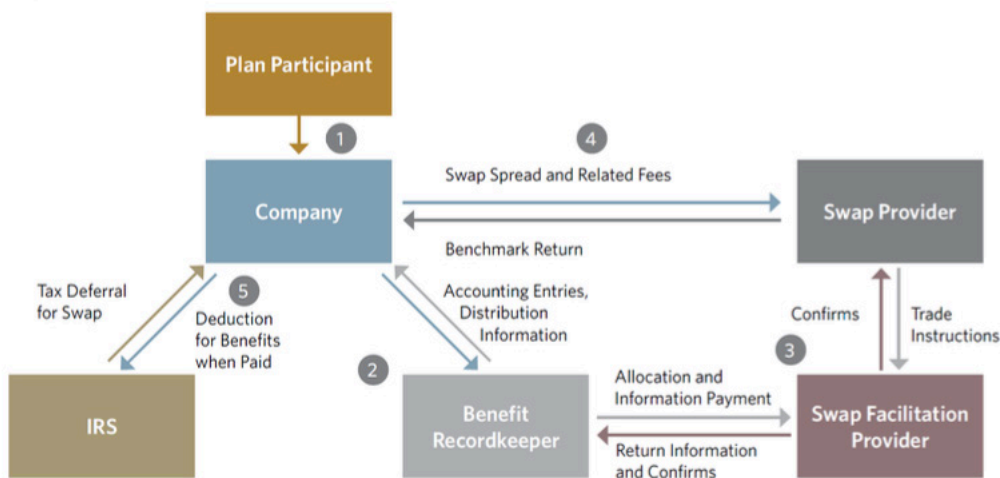
	TRS Hedge	No Hedge	Corporate Owned Life Insurance	Mutual Funds
Creates Liquidity	✓	✓		
Economic Value (positive cash flows, earnings & low cost)	✓			
Optimizes Capital Structure	✓	✓		
Potential Tax Benefits	✓		✓	
Minimizes Income Statement Volatility and/or Tracking Error	✓		✓	✓
Administration	✓	✓		

MECHANICS OF THE TRS

The figure below illustrates the structure of an NQDC TRS hedge which is an exchange of returns between a plan sponsor and a bank swap counterparty (referred to as the swap provider in the Figure). In effect, the plan sponsor is simply renting the swap provider's balance sheet at a rate equal to LIBOR plus a spread, thus gaining exposure to the swap provider's balance sheet assets synthetically. In return for these interest payments, over the term of agreement, the plan sponsor will receive any gains of the underlying reference asset. These payments from the swap provider will offset the increased value of the NQDC liability.

As new deferrals occur, or amounts are distributed, or employees make NQDC plan reallocation decisions, the swap notional is adjusted accordingly to mirror the NQDC plan's liabilities. A deferral distribution triggers a tax deduction for the plan sponsor and creates a taxable event attributable to the amount of swap gains distributed, net of the LIBOR-based costs.

The NQDC plan administrator (or benefit recordkeeper) will continue to manage and track the liability information and required transactions needed to administer the NQDC plan, communicate account information to the participant, support implementation of participant deferral decisions, and track the tax, accounting, and other information needed to effectively manage all aspects of the plan. The swap facilitation provider will manage and track the required transactions needed to administer the swap, communicate this information to the swap provider, communicate net exposure and P&L to the plan sponsor, and track the tax, accounting, and other information needed to manage all aspects of the NQDC plan and TRS Hedge.



1. Employee defers compensation
2. Recordkeeper collects benefits-related information and provides Company with statements, accounting and distribution information
3. Swap facilitation provider receives investment allocation information and aids the Company in generating trade instructions for swap providers. Also provides Company with net exposure statements, accounting and distribution/tax information
4. Company periodically pays swap fee in exchange for a benchmark return¹ on NQDC Plan
5. At plan maturity date or termination of employment, benefits (deferral +/- return) paid by Company to employee. Upon payment, company realizes cumulative gains/losses on the swap, net of interest paid to swap provider, and realizes tax deduction for compensation amount

¹ Benchmarks must be based on publicly-available investment alternatives.

ILLUSTRATIVE EXAMPLE

Company-Specific Assumptions		Swap Fee Assumptions	
Corporate Tax Rate:	25.00%	Spread:	0.80%
Return on Capital Hurdle Rate:	10.00%	1-Month LIBOR Rate (as of 9/9/19):	2.05%
		All-in Swap Fee (Market Rate + Spread):	2.85%
Program-Specific Assumptions		COLI Assumptions	
Size of Deferral (in US\$):	\$100,000,000	M&E	0.35%
Plan Benchmark Return (Net of Asset Management Fees):	6.00%	Gross COLI Return (Net of Asset Management Fees):	6.00%
Mutual Fund Effective Tax Rate:	21.00%	COLI Net Crediting Rate (Net of Insurance Related Fees):	5.00%

In the figure below, the net present value (NPV) over 10 and 40 years of the TRS is compared to: leaving the plan unhedged, funding the plan with taxable investments (mutual funds), and funding the plan with COLI. The COLI policy invests in funds that mirror the reference investments utilized by plan participants. The all-in insurance-related costs of COLI are assumed to be approximately 100 bps per annum of the funded amount, resulting in a net earnings rate of 5.0%, no upfront premium load, and a maturity consistent with a structure that is redeemable only upon death of the insureds. All other parameters are the same in both scenarios.

SUMMARY NPV RESULTS OF NQDC HEDGING ALTERNATIVES

	NQDC Plan	Gain / Loss Hedge	Total
10 Year Deferral Period:			
Unfunded / Unhedged	\$23,216,302	\$0	\$23,216,302
Taxable Mutual Fund Investments	\$23,216,302	(\$41,181,843)	(\$17,965,541)
NQDC Total Return Swap™ Solution	\$23,216,302	\$21,565,044	\$44,781,346
40 Year Deferral Period:			
Unfunded / Unhedged	\$57,955,335	\$0	\$57,955,335
Taxable Mutual Fund Investments	\$57,955,335	(\$102,803,089)	(\$44,847,754)
Corporate-Owned Life Insurance (COLI)	\$57,955,335	(\$71,948,136)	(\$13,992,801)
NQDC Total Return Swap™ Solution	\$57,955,335	\$53,833,267	\$111,788,602
40 Year Deferral Period - COLI w/ SWAP OVERLAY:			
NQDC Total Return Swap™ Solution	\$57,955,335	\$53,833,267	\$111,788,602
Corporate-Owned Life Insurance (COLI)	NA	(\$86,207,551)	(\$86,207,551)
TOTAL COLI w/ SWAP OVERLAY:	\$57,955,335	(\$32,374,284)	\$25,581,051

In the figure below, the attribution (sources) of the NPV gains/losses for the 10 year deferral period are shown.

10 YEAR NPV ATTRIBUTION ANALYSIS

	NQDC Total Return Swap™ Solution	Unfunded / Unhedged	Taxable Mutual Fund Investments
NQDC Program:	\$23,216,302	\$23,216,302	\$23,216,302
Hedge:			
Gain / (Loss) from Hedge / Investment	\$48,698,925	\$0	\$30,490,602
Cost of Hedge	(\$23,131,989)	\$0	(\$61,445,671)
Pre-Tax Gain / (Loss) of Hedge	\$25,566,936	\$0	(\$30,955,069)
Taxes	(\$4,001,892)	\$0	(\$10,226,774)
Total Gain / (Loss) Hedge:	\$21,565,044	\$0	(\$41,181,843)
Total:	\$44,781,346	\$23,216,302	(\$17,965,541)

40 YEAR NPV SUMMARY

	NQDC Total Return Swap™ Solution	Unfunded / Unhedged	Taxable Mutual Fund Investments
NQDC Program			
NQDC Program:	\$57,955,335	\$57,955,335	\$57,955,335
Total Gain / (Loss) Hedge:	\$53,833,267	\$0	(\$102,803,089)
Total	\$111,788,602	\$57,955,335	(\$44,847,754)

OTHER TOPICS

How Companies Committed to Funding their NQDC Plans Can Benefit from the TRS

Legally a company cannot formally fund an NQDC plan—assets must be subject to the claims of general creditors or executives are in “constructive receipt” and will be taxed currently. However, as discussed above, companies have often funded informally using mutual funds or COLI. In these cases, assets are frequently set aside in a Rabbi Trust that specifies they can only be used to pay benefits, except in the case of an insolvency.

The primary purpose of a Rabbi Trust is to protect executives against management or an acquiring company deciding that they do not see the benefits as valid and refusing to pay them. While this is rare, some companies still prefer to provide executives with this protection, and many of these companies can still benefit substantially from using a TRS to hedge their plan.

One option, which gives executives additional protection without actually funding the plan upfront, is to set up a “springing” rabbi trust. In this case, the trust is created but minimally funded before a transaction, and then “springs” into full funding as a condition for the closing of any merger or sale. The company could then use a TRS to hedge the plan as well.

Alternatively, if a company is already funding its plan and using a Rabbi Trust, it may be able to replace the assets in the trust with a letter of credit from a large bank. The letter of credit essentially enables the plan sponsor to fund their NQDC plan using a bank’s balance sheet instead of its own, in a way that trustees and fiduciaries are comfortable with. Fiduciaries for one major bank determined that a letter of credit used to fund the Rabbi Trust was at least as protective of plan liabilities as mutual funds (the letter of credit is “money good”).

Another option is for the plan sponsor to fund the trust with treasury shares or operating assets of the company as a replacement for the COLI or mutual funds. Possible assets the plan sponsor can use are corporate real estate, intellectual property, plant, equipment, factored receivables or leasing agreements.

Each of these options would eliminate the cost of tying up capital in a Rabbi Trust. They would also avoid the need for the company to come up with more capital than what is generated by the after-tax deferral from the participant, as with COLI (if a participant defers \$10 million, the company would have to buy \$10 million of COLI, but would only have approximately \$7.5 million from the amount deferred, due to the tax deduction).

Additional Limitations of COLI

As a hedge of NQDC plan liabilities that are diversified across a range of funds, COLI has a number of notable limitations-while there are ways to reduce the severity of the limitations, they are difficult to eliminate entirely.

- COLI is a long-term investment, the full benefit of the policy is only realized when death benefits are paid. A deferred compensation obligation has a shorter duration, typically from 5 to 15 years. It is conceivable that a plan sponsor will continue to carry COLI on its balance sheet for many years after the NQDC obligations are met and will, at that point, be exposed to fluctuations in the value of the COLI assets.
- The life insurance component of the COLI policy is not free. The plan sponsor will typically need to pay up-front premium loads and on-going fees to finance the death benefit and other policy-related expenses.
- The costs of COLI are difficult to predict. Ongoing insurance-related charges are dependent on a number of factors such as the demographics of the group and indirectly, the performance of the assets inside the policy. Performance below expectations will increase the cost of the death benefit because the cost of insurance is dependent upon both the difference between the aggregate death benefit less the cash value of the policy as well as the demographics of the population insured.
- Financial services firms who include their own funds within their NQDC plan options will be limited or even precluded from doing so within the COLI due to insurance-related tax rules.
- Non-public investment funds, especially alternative investments, are difficult to support and are rarely found in plans hedged with COLI.

Things to Consider if You Already Have COLI

- Other hedging alternatives can be used to augment existing COLI if the Company does not want to make continued purchases.
- COLI can be converted to an investment strategy that can be managed by a plan sponsor’s Treasury Department while alternative hedges can be added as an overlay to hedge the NQDC plan liabilities.

CONCLUSION

Total Return Swaps have become an increasingly popular tool for hedging nonqualified deferred compensation plans because of their ability to reduce income statement volatility, free up corporate balance sheet capacity and provide optimal tax and accounting tax treatment. A Total Return Swap may not be practical for every issuer due to factors such as deferred compensation plan size, company WACC rates, tax consequences from liquidating current hedging methods, and Rabbi Trust restrictions. However, for many plan sponsors this hedging alternative is the most practical, economical and efficient.

The use of Total Return Swaps, we believe, will become the preferred method for companies to hedge their deferred compensation liabilities. Plan sponsors will be well-served to consider such a program with their bank, legal counsel, and tax and accounting advisors.

ABOUT THE AUTHORS

Lee R. Hegarty is Director, Equity Sales & Trading at BNY Mellon Markets in New York.

Clifford R. Eisler is a Principal of Atlas Financial Partners in New York.

David J. Marshall is a Principal of Atlas Financial Partners in New York.

ABOUT ATLAS FINANCIAL PARTNERS

Atlas Financial Partners (ABF) is a leader in the design, implementation, funding, hedging and ongoing administration of NQDC Plans. ABF pioneered the development of the NQDC Total Return Swap™ program, a proprietary, low-cost offering that dynamically hedges income statement volatility created by NQDC plans.

ABOUT BNY MELLON

BNY MELLON CAPITAL MARKETS, LLC

BNY Mellon Capital Markets, LLC (“Capital Markets”) is a full service registered broker-dealer and an indirect wholly owned non-bank subsidiary of The Bank of New York Mellon Corporation (“BNY Mellon”). BNY Mellon and its affiliates lend and provide other products and services to issuers and others, and provide and receive related fees and compensation. Capital Markets is a member of FINRA and SIPC, which protects securities customers of its members up to \$500,000 (including \$250,000 for claims for cash). Explanatory brochure available upon request or at www.sipc.org. **SIPC does not protect against loss due to market fluctuation. SIPC protection is not the same as, and should not be confused with, FDIC insurance.**

This material is for reference purposes only and not intended to be a recommendation with respect to, or solicitation or offer to buy or sell, any particular financial instrument, including but not limited to BNY Mellon stock, or to participate in any particular trading strategy and is not tax, legal, investment or accounting advice. Nor is it an offer or solicitation in any jurisdiction in which such an offer or solicitation would be illegal. Capital Markets does not make representations as to the actual value to be received in connection with a transaction. Although information is from sources believed reliable, there is no undertaking as to accuracy and opinions and information contained herein are subject to change without notice. Difficulties in the mortgage and broader credit markets have led to a substantial decrease in the availability of credit. The extent and duration of any future continued weakening of U.S. and global credit and financial markets, higher costs of borrowing, and disruptions in debt and equity markets potentially make it more difficult to liquidate an investment, or determine the impact, if any, on the performance and prospects of particular issuers or securities. A client should not enter into any transactions unless it has fully understood all risks and that not all investments will be suitable, and has independently determined that such transactions are appropriate, for the client. Prices may fluctuate and it is possible that such fluctuations may be substantial in response to many factors including, without limitation, general market and market sector conditions, U.S. and global, in addition to company specific conditions. **Past performance is not a guide to future performance of any instrument, transaction or financial structure, and a loss of original capital may occur.**

BNY Mellon is a global investments company dedicated to helping its clients manage and service their financial assets throughout the investment lifecycle. Whether providing financial services for institutions, corporations or individual investors, BNY Mellon delivers informed investment management and investment services in 35 countries. As of June 30, 2019, BNY Mellon had \$35.5 trillion in assets under custody and/or administration, and \$1.8 trillion in assets under management. BNY Mellon can act as a single point of contact for clients looking to create, trade, hold, manage, service, distribute or restructure investments. BNY Mellon is the corporate brand of The Bank of New York Mellon Corporation (NYSE: BK). Additional information is available on www.bnymellon.com. Follow us on Twitter @BNYMellon or visit our newsroom at www.bnymellon.com/newsroom for the latest company news.

Exchange-Traded Funds (ETFs). ETFs generally represent an interest in a portfolio of securities and/or commodities, subjecting the investor to a substantial loss in principal and income due to market risk, interest rate risk, liquidity risk, currency exchange risk, and risks specific to a particular sector.

Options. Options carry a high level of risk and are not suitable for all investors. An option holder may lose the entire amount paid for the option in a relatively short period of time and an options writer may incur significant loss if the price of the underlying interest declines.

Investment Banking and Public Finance. The Company should discuss any financial instrument offering, engagement, or relationship with its own counsel and financial advisors. Capital Markets does not provide tax, legal, or accounting advice, and any information provided by Capital Markets does not include the legal, tax or accounting effects of consummating any transaction.

No Tax, Legal or Accounting Advice. Capital Markets does not provide tax, legal, or accounting advice. You should independently and carefully consider whether any information or investment instruments are suitable for your particular investment objectives and financial position and, if you believe it appropriate, seek professional advice, including tax, legal and accounting advice.

Past Performance is not Indicative of nor a Guarantee of Future Performance and a Loss of Original Capital may Occur. You should not enter into any transactions unless you have fully understood all risks, that not all investments will be suitable, and you have independently determined that such transactions are appropriate, for you. Investing in securities involves risk, including loss of the principal amount invested. Additional information is provided on FINRA's Web site at <http://www.finra.org/Investors/ProtectYourself/index.htm>.

Money Market Mutual Funds and Ultra Short Bond Funds. Money market funds generally only invest in certain high-quality, short-term investments issued by the U.S. government, U.S. corporations and state and local governments and are subject to strict diversification and maturity standards. Ultra-short bond funds are not subject to these requirements. The net asset value (NAV) of an ultra-short bond fund will fluctuate, while money market funds seek to maintain a stable NAV of \$1 per share, although there is no guarantee that they will achieve this goal.

Mutual Funds. Before investing in mutual funds, it is important to understand the sales charges, expenses, and management fees that you will be charged, as well as any available volume-based breakpoint discounts, and whether the mutual fund's investment strategy is compatible with your investment objectives.

Equity Securities. Prices may fluctuate and it is possible that such fluctuations may be substantial in response to many factors including, without limitation, general market and market sector conditions, U.S. and global, in addition to company specific conditions. Dividends are not guaranteed and are subject to change or elimination.

Not acting as Municipal Advisor, Financial Advisor or Fiduciary: Capital Markets is providing the information contained in this document for discussion purposes only in anticipation of serving as an Underwriter, Broker-Dealer, CP Dealer or Remarketing Agent to the addressee and is not recommending any action to the addressee. The primary role of Capital Markets, as Underwriter, is to sell and purchase securities, as applicable, to and from investors, in arm's length commercial transactions; Capital Markets has financial and other interests that differ from those of the addressee. As such, Capital Markets is not acting as a municipal advisor, financial advisor or fiduciary to the addressee or any other person or entity in connection with the information provided. The information provided is not intended to be and should not be construed as "advice" within the meaning of Section 15B of the Securities Exchange Act of 1934 or the rules thereunder. The addressee should consult with its own financial and/or municipal, legal, accounting, tax and other advisors, as applicable, to the extent it deems appropriate. If the addressee would like a municipal advisor in a transaction that has legal fiduciary duties to the addressee, then the addressee is free to engage a municipal advisor to serve in that capacity. Notwithstanding the foregoing, Capital Markets is registered as a municipal advisor and may, from time to time, act as a municipal advisor with respect to municipal issuers and their investments. Issuers should contact their Capital Markets representative to discuss an engagement with Capital Markets as a municipal advisor.

iFlow® is a registered trademark of The Bank of New York Mellon Corporation under the laws of the United States of America and other countries.

Securities Products: Not FDIC-Insured – Subject to Loss in Value – Not a Deposit of or Guaranteed by a Bank or any Bank Affiliate.

©2019 BNY Mellon Capital Markets, LLC. All rights reserved. Trademarks, service marks and logos are the property of their respective owners.