

# Bank of New York Mellon 2016 Deposit White Paper



BNY MELLON

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## 1. EXECUTIVE SUMMARY

### Introduction

The Bank of New York Mellon (BNY Mellon) Deposit White Paper provides a qualitative review of deposits driven by services provided by lines of business throughout the investments lifecycle.

As such, the following paper examines deposits by line of business, client base, service types, related inflows and outflows, as well as explores deposit behavior in both a business as usual and in a stressed environment.

BNY Mellon requests confidential treatment for this document, its appendix (the "Appendix") and the files included in the Appendix material ("Confidential Information"). The Confidential Information contains proprietary information concerning the business plans and internal business processes of BNY Mellon and its affiliates and confidential supervisory information.

This information is not available to the public and is exempt from disclosure under the Freedom of Information Act (5 U.S.C. §552(b)(4),(8)), and related regulations promulgated by the Board of Governors of the Federal Reserve System ("Federal Reserve") under 12 C.F.R. Part 261, the Federal Deposit Insurance Corporation under 12 C.F.R Part 309, and the confidentiality supervisory restrictions of the New York State Banking Law §36(10). Disclosure of this information would result in substantial competitive harm to BNY Mellon.

BNY Mellon requests that if the Federal Reserve, the Federal Deposit Insurance Corporation, or the New York State Department of Financial Services should determine to make available to the public any of the Confidential Information, they will inform BNY Mellon prior to doing so and provide it with an opportunity to make an appropriate submission as to why such information should be preserved in confidence.

## 2. BANK OF NEW YORK MELLON

### Company Profile

For over 230 years, the Bank of New York Mellon (BNY Mellon) has dedicated itself to helping 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 and more than 100 markets.

With a proven history of supporting the financial markets through innovative investment services and investment management throughout the investment lifecycle, BNY Mellon has become the world's largest custodian bank. As of June 30, 2016, BNY Mellon had \$29.5 trillion in assets under custody and/or administration, and \$1.7 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 and/or restructure **financial instruments**<sup>1</sup> and investments. BNY Mellon is the corporate brand of The Bank of New York Mellon Corporation (NYSE: BK).

### Investment Lifecycle

The investment lifecycle lies at the heart of all services provided by BNY Mellon.

The cycle is comprised of six key investment phases and shown in the following illustration.



\*Securities transactions are effected, where required, only through registered broker-dealers.

#### *Investment Lifecycle at BNY Mellon*

<sup>1</sup> Please note that bolded words are hyperlinks that link to the Glossary.



## Three Investment Categories

BNY Mellon's primary servicing functions are divided into three segments:

1. Investment Services
2. Investment Management
3. Markets

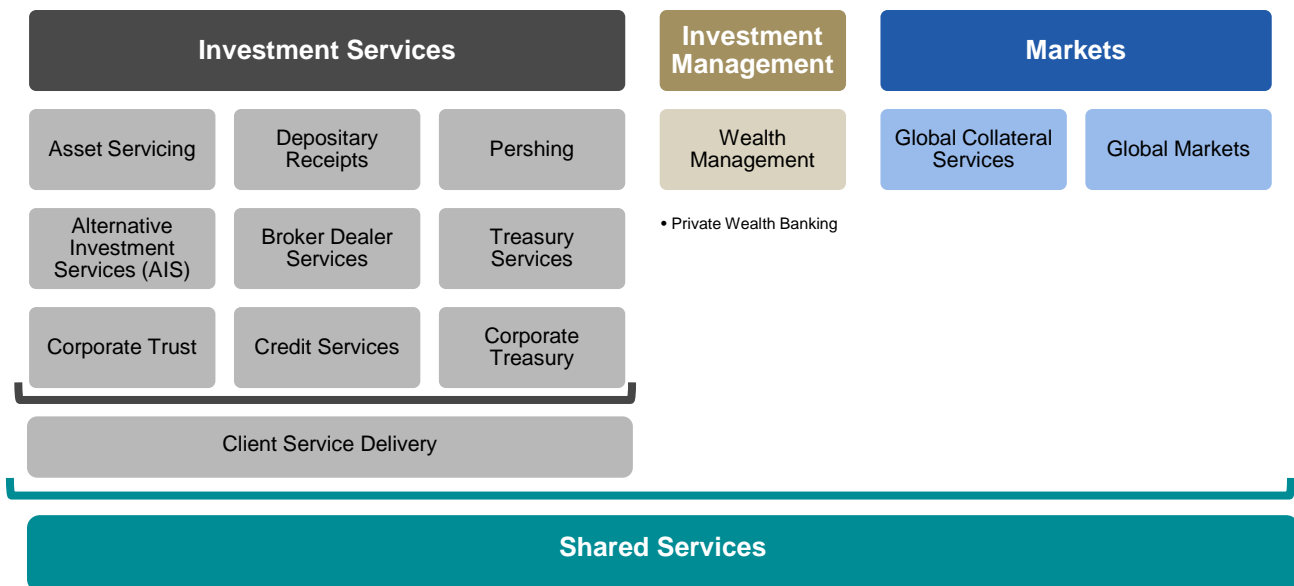
Investment Services provide clients with the ability to conduct business, invest in assets, manage risk, enhance **operational** efficiency, and engage in market transactions globally, among other functions.

Investment Management creates and executes investment strategies and solutions to meet and surpass clients' needs and expectations.

The Markets segment facilitates client access to capital, financing and liquidity by providing foreign exchange, securities finance, **collateral** management and segregation, capital markets, liquidity and brokerage services.

## Lines of Business

Within each of these three investment categories reside several lines of business. The breakout of the businesses that correspond to the three service categories are as follows:



These three investment categories in combination with their related businesses are the fundamental building blocks lead to the generation of deposits. As each investment phase and corresponding service is unique, each business line has a strategic view on managing its respective client base.

Also illustrated is the "Shared Services" category, which encompasses departments such as Legal, Finance and Human Resources. This area is primarily responsible for supporting the three investment categories shown above. As this area does not generate or hold deposits, this function falls outside the scope of this paper.

### 3. DEPOSITS OVERVIEW

#### Introduction

All **deposits** at BNY Mellon relate to other services offered by lines of business within the three investment categories.

BNY Mellon provides three services classified as “operational,” according to the Basel III definition. These services include **custody**, **clearing** and **cash management** functions.

These cornerstone services are at the core of the bank’s business and generate the bulk of BNY Mellon’s client deposits

Additionally, each of BNY Mellon’s custody, clearing and cash management offerings are comprised of many ancillary and component services. Examples of operational ancillary types are listed below. It is important to note that these products may not be a one-to-one match when addressing lines of business.

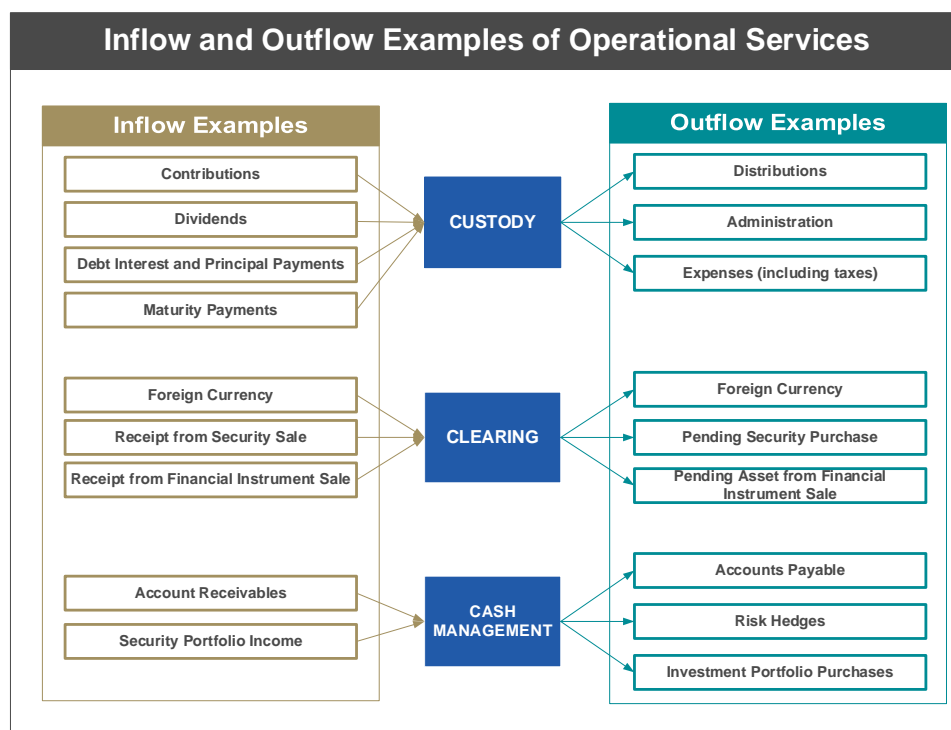
Operational Service Types	
<ul style="list-style-type: none"> <li>• Agency services, including payment and settlement services, payment of fees, taxes and other expenses</li> <li>• Client subscriptions and redemptions</li> <li>• Collection and aggregation of funds</li> <li>• Daylight overdraft</li> <li>• Determination of intra-day and final settlement positions</li> <li>• Escrow services</li> <li>• Funds transfer services</li> </ul>	<ul style="list-style-type: none"> <li>• Payment remittance</li> <li>• <b>Prime brokerage*</b></li> <li>• Scheduled distribution of client funds</li> <li>• Settlement of securities transactions</li> <li>• Stock transfer services</li> <li>• Transfer of recurring contractual payments</li> <li>• Transmission, reconciliation and confirmation of payment orders</li> </ul> <p><i>*Prime brokerage services are specifically excluded from receiving operational treatment under US regulations</i></p>

Additionally, there are many services that support and enhance these operational services but do not directly create deposits. Examples include global systems infrastructure, support functions, among others.

These auxiliary services also have an important impact on deposits. Due to their complimentary nature and the resulting “sticky” impact on operational services and resulting deposits, these services create **entrenchment**.

#### Sources of Deposits

BNY Mellon’s deposits result from clients’ use of operational services. These services involve cash inflows and outflows and the need to maintain positive a cash balance sufficient to cover all outflows. Please refer to the graphic on the following page for an illustration of operational inflows and outflows.



## Deposits by Business

Currently, the services provided by 13 lines of business generate deposits. Of these 13 areas, there is a distinction in terms of the overall volume of deposits. As such, the 13 lines of business are organized into “primary businesses” or “other businesses” categories, as described in the chart below. The “primary” and, “other” labels used below apply only to in the context of deposits, as this is not indicative of the overall structure of the bank.

Primary Businesses	Other Businesses
<ul style="list-style-type: none"> <li>• Asset Servicing</li> <li>• Alternative Investment Services (AIS)</li> <li>• Corporate Trust</li> <li>• Treasury Services</li> <li>• Wealth Management</li> <li>• Broker Dealer Services</li> </ul>	<ul style="list-style-type: none"> <li>• Global Collateral Services (GCS)</li> <li>• Global Markets</li> <li>• Depositary Receipts</li> <li>• Credit Services</li> <li>• Pershing</li> <li>• Corporate Treasury</li> <li>• Client Service Delivery</li> </ul>

Each business has a strategic view on managing its client base.

Going forward, this paper will examine deposits by a line of business basis.

## Deposits and Stressed Scenarios

In addressing deposits in terms of BNY Mellon businesses, services and corresponding inflow and outflows, the final component highlighted in this paper includes commentary regarding deposit behavior in stressed scenarios.

## 4. ASSET SERVICING

### Overview

The accumulation and processing of cash for safekeeping, in connection with servicing security investment portfolios, is the primary service offered by Asset Servicing.

As a custodian, BNY Mellon receives and records **dividend** and interest payments for client accounts that hold large security portfolios. Additionally, the bank also receives contributions from pension funds, then collects and clears investment income to orchestrate benefit disbursements to plan participants.

BNY Mellon also provides solutions that amplify clients' ability to process and monitor **funds**, as well as measure investment data from around the world.

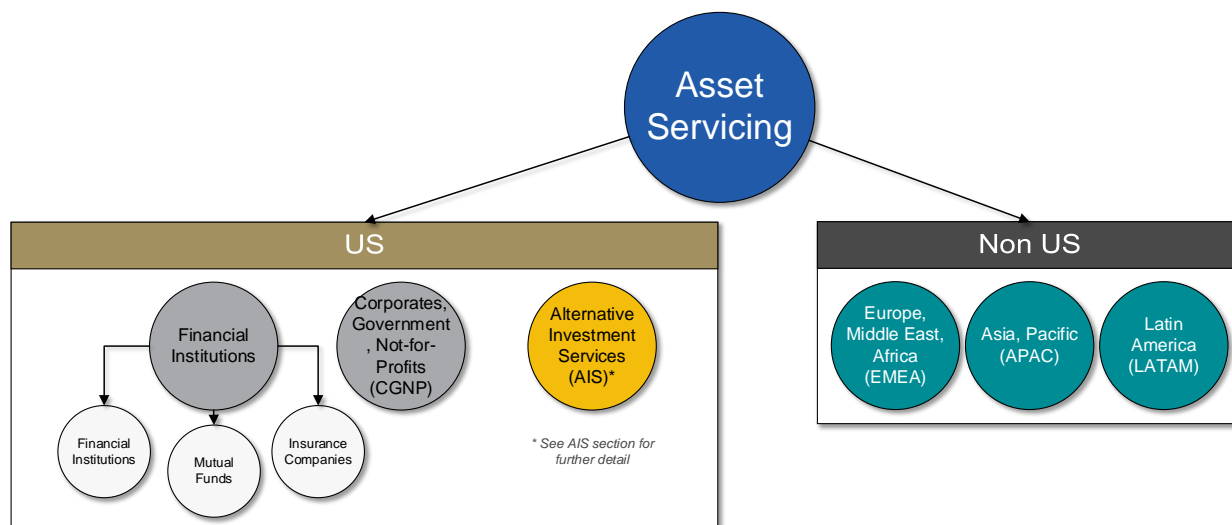
There are four primary custody and clearing-related services provided by Asset Servicing:

- [Securities settlement](#) services
- Securities servicing features
- Securities lending services where BNY Mellon can act as a lending agent or collateral agent
- Services specific to **Exchange Traded Funds (ETFs)**

### Clients

Asset Servicing serves a variety of clients in the U.S., Europe, Middle East, Africa, Latin America and Asia. Clients range from financial institutions, mutual funds, insurance companies, corporates, governments, not-for-profit organizations.

Most of Asset Servicing's approximately 3,000 global clients are located in the U.S. and Europe and maintain deposits primarily denominated in USD, EUR, and GBP. Given Asset Servicing's global presence, the following illustrates how Asset Services manages the business based on geography:



Please note that while **Alternative Investment Services** offers similar services, their client base is unique from Asset Servicing clients. As a result, this line of business is explained in detail in a separate chapter of this document and as such is not part of the scope of this chapter.

While Asset Servicing's clients are located worldwide, the majority of the deposits portfolio is concentrated primarily in North America, particularly in the US. As such, the US Asset Servicing clients are organized into the following categories:

1. Platinum (PLATUS)	2. US Financial Institutions (USFI)	3. Corporates / Government / Not-for-Profit (CGNP)	4. Middle Market
BNY Mellon's largest, most complex, and highest-potential clients	<ul style="list-style-type: none"> <li>Investment Managers</li> <li>Mutual Funds</li> <li>Banks</li> <li>Insurance Clients</li> </ul>	<ul style="list-style-type: none"> <li>Corporate and Public Pension Plans</li> <li>Foundations and Endowments</li> <li>Religious Entities</li> <li>Healthcare Organizations</li> <li>Taft-Hartley (Labor Union) Plans</li> </ul>	<ul style="list-style-type: none"> <li>Smaller and less complex clients</li> <li>These plans and funds range from \$10MM to \$1B in assets under custody</li> <li>Lower level of servicing complexity and requirements displayed regarding:               <ul style="list-style-type: none"> <li>Number of Transactions</li> <li>Holdings</li> <li>Structures</li> </ul> </li> <li>Clients typically engage BNY Mellon to provide up to three Asset Servicing services</li> </ul>

U.S. and non-US clients alike strive to continuously increase capital for an assortment of reasons, including:

- Return to money to shareholders
- Pay out benefit disbursements
- Hold cash for **margin call** purposes
- Fulfill long term goals of growing principal
- Cover expenses and/or overdraft protection
- Fund investments
- Satisfy risk appetites
- Maintain emergency funds
- Cover short sales or failed trades
- Execute hedging or arbitrage strategies
- Increase yield on investment portfolios

## Service Types

Clients turn to BNY Mellon to hold, service and manage assets on their behalf. Examples of assets held include, but are not limited to, money market instruments, **government securities**, equities, corporate bonds and municipal bonds. To fulfill client needs, Asset Servicing provides the following custody and clearing component services:

- When a buyer receives purchased securities and the seller receives the corresponding cash for those securities, the associated securities and cash are held under custody through Securities Settlement Services.
- When **rights issues** and obligations associated with a client's securities in safekeeping are processed, including income collection, corporate action processing and taxation services, these tasks are accomplished through Securities Servicing.
- When a client earns incremental income on investment portfolios, or when **transfer agency** services for ETFs are provided, BNY Mellon is the custodian and clearing agent as a lending agent and as a collateral investment agent in Securities Lending Services.

Please refer to the Appendix for additional information regarding [securities settlement services](#), [reinvestment cycle time, expenses, compensating balances, lending agent cash collateral \(US\), collateral agent](#) and [redemption process ETF processes](#)<sup>2</sup>.

As a result, these operational components have corresponding inflows and outflows that lead to deposit creation and will be further explored in the next section.

In addition to custody-related services, Asset Servicing also offers services that are not associated with deposits, such as information delivery and risk analytics services. These include:

- ClearSky Service to assist with mutual fund **blue sky** information and reporting system needs
- Advertising Review Solutions for digital media advertising and SEC compliance
- Consultant Relations Program
- Reports and extracts related to benefit disbursements
- Global risk solutions
- Workbench<sup>SM</sup> web portal investment management and custody related information delivery
- Insurance services
- Market entry consultancy, legal and regulatory intelligence support services,
- Subaccounting technology platform
- Eagle Investment Systems LLC for data management, investment accounting and performance measurement

While these ancillary services do not yield deposits, they do enhance the overall service offerings provided and thus bring added complexity and stickiness to a client's relationship with BNY Mellon.

## Inflows / Outflows

The deposits for each of the four operational component services have unique and dynamic inflow and outflow attributes.

Security Settlement Services inflows and outflows include the following asset examples:

- Money market instruments (inflow)
- Government securities (inflow and outflow)
- Equities (inflow)
- Corporate bonds (inflow)
- Money market instruments (inflow)
- Cash (inflow and outflow)

Securities Servicing inflows and outflows include:

- Income collection (inflow)
- Dividends on equity securities (inflow)
- Interest on bonds (inflow)
- Corporate actions (outflow)
- Taxation services, including tax reclaim funds (inflow and outflow)

Securities Lending Services inflows and outflows include:

- Cash (inflow)

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<sup>2</sup> Please note that italicized words are hyperlinks that link to the Appendix.

- Collateral (inflow)
- Securities, such as government securities and minimum credit rating securities (inflow)
- Corporate action/income payments (inflow)
- **Excess securities collateral** (outflow)

## Deposits in a Business as Usual Environment

The deposit balances accumulate based on several requirements.

**Redemption requirements** mandate that BNY Mellon's investment management clients must maintain adequate liquidity to ensure client redemption requests to take money out of investments, can be processed in a timely manner. The request timeframe typically ranges from same-day to two business days.

If funds held on deposit are not sufficient to support required redemptions, the fund may be forced to delay the redemption, liquidate market positions, or utilize overdraft funding. Funds seek to avoid liquidation of market positions in order to fund payment needs, as liquidation may negatively impact fund performance. As an alternative source of liquidity, funds may also rely on futures positions (where such futures are available for the fund asset types).

Security Settlement Services deposits accumulate and vary depending on clearing market timeframes. The transfer of money market instruments as well as government securities ownership can range from same-day to one day after the instrument settles (i.e., T+0/T+1). Equities, corporate bonds and municipal bonds often transfer ownership within three days, or T+3. The increased timeframe allows for a number of processing steps to occur, which ensure a greater degree of control and efficiency. Government securities, settle on T+0/T+1 (in contrast, agency securities settle on T+3), and include treasury bills, treasury notes, and treasury bonds.

## Deposit Behavior in a Stressed Environment

Custody services are highly complex and would require significant level of effort to transfer to another provider.

## 5. ALTERNATIVE INVESTMENT SERVICES (AIS)

### Overview

Alternative Investment Services (AIS) is a specific sub-business of Asset Servicing (AS). While both businesses offer similar services such as transfer agency, securities settlement, corporate actions services, the difference in client base is the chief differentiator between the two entities and leads to AIS function as a stand-alone business.

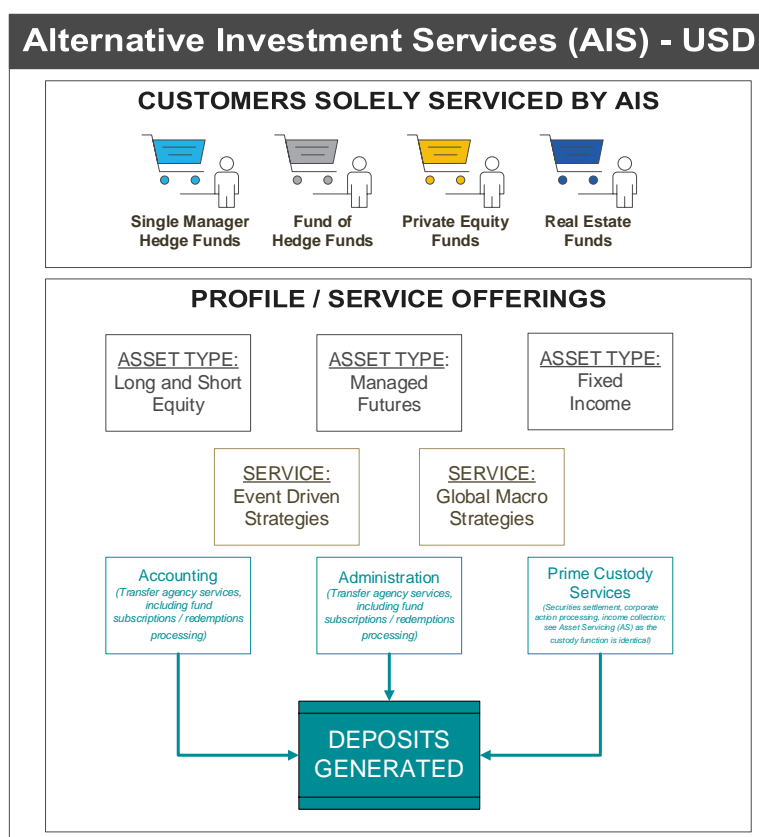
Another variance between AS and AIS is that unlike traditional assets (which include equities, bonds and cash), alternative investments by nature span a broad range of asset types and investment strategies, including, **long and short equity**, **managed futures**, **fixed income** and **global macro**, and **event-driven strategies**.

In addition to AIS, this section is also inclusive of the Global Liquidity Services (GLS) business line, whose has a client base similar to AIS. While it practically functions as an independent entity, the difference here is that GLS balances are re-allocated to AIS at month end.

### Clients

At BNY Mellon, AIS clients include single manager hedge funds, a fund of hedge funds, **private equity** funds, real estate funds, and alternative prime custody.

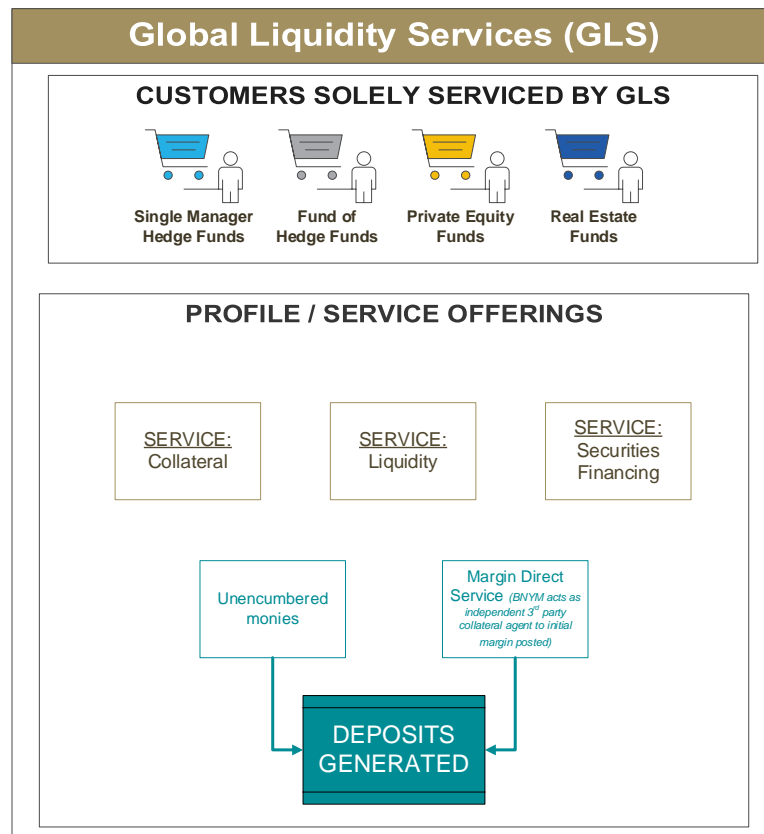
As the overview of AIS illustrates below, these assets types and related services and actions lead to deposit generation.





While GLS's client base is similar to AIS in that it is mostly comprised of alternative fund managers, GLS provides distinct and separate services from AIS. Furthermore, while both groups share a common client base, clients serviced by GLS are assigned to the GLS group and clients serviced by AIS are assigned to AIS.

An overview of GLS is as follows:



## Service Types

The clients of AIS and GLS clients drive services in two fundamental ways.

The first is when an investor applies to join a particular fund and a resulting **subscription process** takes place.

The second is when an investor withdraws a portion or all of their investment from a fund, which is known as the redemption process.

To accommodate client needs, AIS and GLS offer the following services:

- Prime Custody "light" services (while this include securities settlement, corporate action processing, and income collection, it is referred to as "light" because not all of the criteria of traditional prime custody services is satisfied)
- Transfer Agency services within accounting and administration services (including fund subscriptions / redemptions processing services)
- **Margin Direct services** where GLS acts as an independent third party collateral agent to **initial margin** posted

Please refer to the Appendix for further information [Transfer Agency](#) and [Margin Direct services](#).

Of the three operational deposit classifications, AIS and GLS deposits can be clearing, custody or both.

Accounting and administration and prime custody services provided to hedge funds by AIS are strongly correlated to deposit accumulation, while **unencumbered monies** and the Margin Direct service create the majority of deposit balances in GLS.

Clients utilizing BNY Mellon as a transfer agent for subscription/redemption services do so to support cash flow activity related to subscriptions and redemptions.

The influx of cash can accumulate over varying durations depending on the type of fund. Fund types include:

- Mutual funds,
- **Registered funds** within AIS, and
- Private equity and hybrid funds

Deposits resulting from Margin Direct Services include cash, securities, or a standby **letter of credit**.

If cash is provided as collateral, BNY Mellon will typically be responsible for investing the cash for the term of the loan. Providing cash collateral is the prevalent practice in the U.S. market.

## Inflows / Outflows

Inflows and outflows within AIS are summarized as follows:

- Cash (inflow)
- Mutual funds (inflow)
- Registered funds (inflow)
- Private equity and hybrid funds (inflow)
- Distributions (outflows)
- Expenses (outflow)
- Administration (outflow)

## Deposits in a Business as Usual Environment

Generally, once clients have been notified by the investor of the redemption and have generated cash through liquidation of investment positions, they will set aside deposits to cover redemptions. This typically occurs near month-end or quarter-end.

Additionally, the influx of cash can accumulate over varying durations depending on the type of fund:

- Mutual funds – generally accumulate deposit balances one or two days prior to the redemption.
- Registered funds within AIS – these are not pure mutual funds and therefore tend to have a broader investment base. The redemption process is therefore not standard and requires a significant notification period (i.e., 60 days, semi-annually). As such, cash balances are more likely to reside at BNY Mellon for an extended duration.
- Private Equity and hybrid funds – tend to accumulate balances more slowly leading up to a redemption date. Unlike mutual funds redemptions, where cash accumulates one or two days prior to the redemption, private equity deposits amass over a long duration.

The subscription process is also associated with the accrual of deposit balances, depending upon the investment period associated with the fund's investment strategy. More liquid asset classes (typically the case with registered funds) may invest subscriptions proceeds quickly. Alternatively, funds investing in less liquid categories may hold cash for an extended period of time (e.g., until an equity investment completes an initial public offering).

The following aspects also influence deposit behavior:

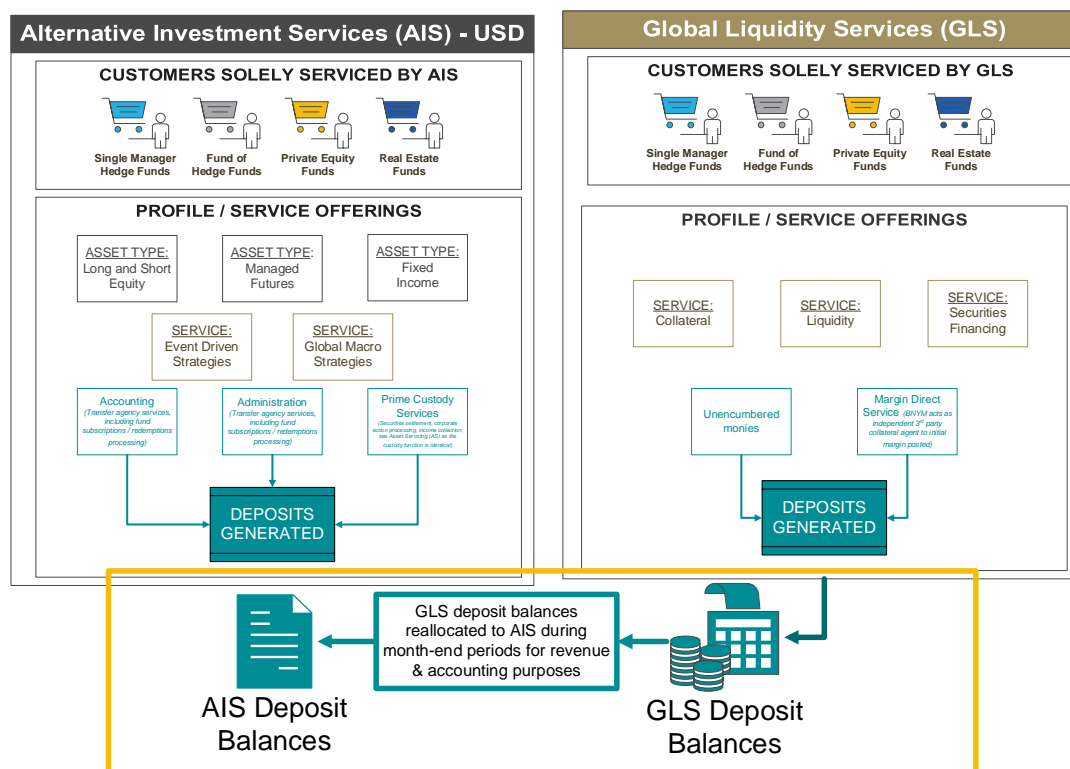
- **Lockup Period**
- Redemption Frequency
- Redemption Notice
- [Gate Provision](#)

Please refer to the Appendix for further information regarding *lockup period*, *redemption frequency*, *redemption notice* and *gate provision*.

Clients also tend to hold cash or liquid investments. Uninvested liquidity is maintained to meet margin calls, satisfy redemptions, or fund investment vehicles. However, the amount held liquid can vary significantly based on client type. Furthermore, the liquidity threshold is client and strategy specific. As a result, marked deviations from baseline are possible.

Surges in payment activity are observable during month ends and quarter ends, corresponding with redemption dates. Over the lifecycle of the fund, deposit balances tend to build during an investment period, stabilize or fall during operation, and eventually temporarily build again if the fund is closed out and redemptions funded. This cash flow pattern will vary by fund type and age of the fund.

It is important to note however that GLS balances are reallocated to AIS during month-end periods for revenue and accounting purposes, as represented by the yellow outline below:



## Deposits in a Stressed Environment

The impact on deposits in an idiosyncratic stress event would depend on the severity and duration of the event.

For a shorter-term and/or less severe event (e.g., a temporary operational event), it is unlikely that a significant portion of clients would transfer relationships due to the cost involved to switch to another custody provider.

The SunGard technology glitch that occurred in August 2015 is evidence of this. When the company's InvestOne fund accounting system became corrupted during routine system maintenance, the impact was felt by BNY Mellon's mutual fund and exchange traded funds clients. However, the issue was fully resolved in a timely manner and the system has been working properly ever since the incident. Most significantly, BNY Mellon did not lose any clients as a result of this event.

In the case of a sustained and/or severe event (e.g., loss of investment grade rating), it is assumed that a loss of custody and/or administration relationships would occur over several months as service arrangements are transferred.

GLS has observed that deposits associated with Margin Direct services lack portability. By their nature, collateral agency/administration deposits are reliant on the completion of a transaction, and would not migrate elsewhere during an idiosyncratic stress event. Unencumbered cash, however, would probably be repositioned as these deposits face no restrictions.

The impact of a systemic event, in which other **depository** institutions are at risk as well as BNY Mellon, would be less unfavorable than an idiosyncratic event.

In such a situation, clients would likely continue to maintain deposits with BNY Mellon given the lack of safer alternatives. Some cash, however, could be quickly repositioned off balance sheet (e.g., to Treasury funds) in a total flight from the banking sector.

## 6. CORPORATE TRUST

### Overview

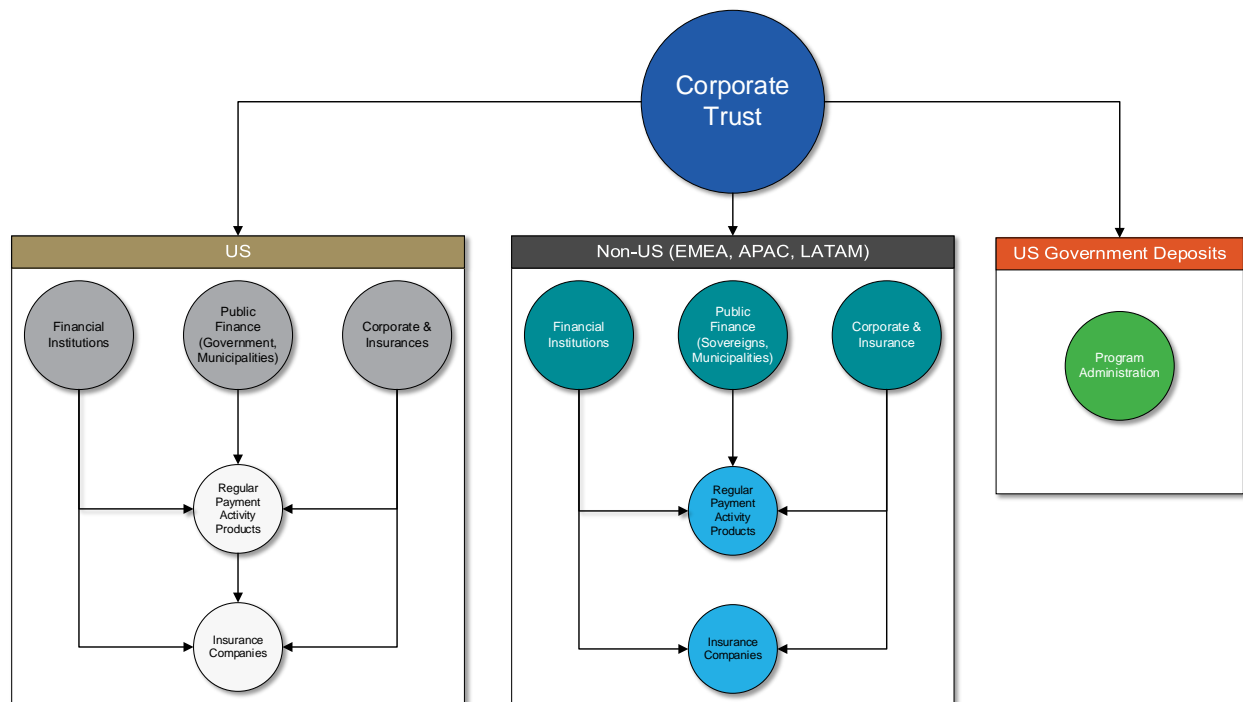
Corporate Trust at BNY Mellon delivers custody and clearing services to help clients trade, clear, settle and restructure assets within the investment lifecycle. The Corporate Trust business serves as a neutral intermediary in **issuer** and related investor services. Their international, multi-jurisdictional administration capability and experience in participating in large and complex financial deals help clients navigate new, complex structures as well as traditional trust programs.

To accomplish this, Corporate Trust delivers operational expertise and strategies in a variety of areas such as **trustee**, **registrar**, paying agent, account bank, common depository, exchange agent and custodian services. These general functions fall into five main service categories, described further below.

Structured Finance	Conventional Debt	Specialty and Public Finance Services	Asset and Collateral Administration Services	Program Administration Services
<ul style="list-style-type: none"> <li>• Corporate Trust acts third party administrator to execute structured finance deals</li> <li>• Deals commonly include:               <ul style="list-style-type: none"> <li>• Securitization-related transactions</li> <li>• Asset-Backed Securities</li> <li>• Mortgage-Backed Securities</li> <li>• Collateralized Debt Obligations, and Collateralized Loan Obligations),</li> <li>• Covered bonds,</li> <li>• Student loans</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Conventional Debt helps clients effectively executes conventional debt financing strategies</li> <li>• A range of services from pre-issuance through maturity are provided</li> <li>• These debt financing strategies include:               <ul style="list-style-type: none"> <li>• Corporate and sovereign debt,</li> <li>• Convertible debt,</li> <li>• Restructurings</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Provides specialty and public finance services such as:               <ul style="list-style-type: none"> <li>• Default administration,</li> <li>• Escrow agent,</li> <li>• Insurance trust</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Provides asset and collateral administration services for deals such as:               <ul style="list-style-type: none"> <li>• Collateralized Debt Obligations,</li> <li>• Collateralized Loan Obligations,</li> <li>• Collateralized Fund Obligations (<i>which also belong to Structured Finance when BNY Mellon acts as the paying agent</i>)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Corporate Trust maintains an active relationship with the U.S. Government.</li> <li>• BNY Mellon provides program administration services that are unique to the U.S. Government and are not provided to government agencies.</li> <li>• Example: Troubled Asset Relief Program (TARP)</li> </ul>

### Clients

Corporate Trust provides services to financial institutions, insurance companies, governments, sovereigns and not-for-profit organizations across a global footprint.



Clients may utilize Corporate Trust services to for a range of purposes, including:

- To fund operations
- Make future investments
- Create infrastructure
- Deliver public services

## Service Types

Depending on asset type and a client's need, Corporate Trust has the ability to play multiple roles in providing operational services.

Structured Finance business activities often entail **securitization**-related activities. Relating to this, Corporate Trust may act as **paying agent** or the principal paying agent (in some cases), account bank, and custodian bank. Common deal types include **asset-backed securities (ABS)** and **mortgage-backed securities (MBS)**. Please refer to the Appendix for [ABS and MBS process flows](#).

Conventional Debt functions as a cash manager. BNY Mellon provides third party (non-lender) account bank services and maintains project deposit accounts, administers project cash flows, provides financial reporting and communicates with all relevant parties.

In the case of a **repack** in Conventional Debt, Corporate Trust acts as a paying agent. Please refer to the Appendix to view a sample [process flow of a repack](#).

When capital needs arise in conjunction with financing large industrial, long term-infrastructure and other public services projects, BNY Mellon serves **Project Finance**-related functions. These services are a **limited recourse**, meaning the lenders to the project are paid from the cash flows of the completed project, without recourse to the balance sheets of a project's sponsors.

In construction and post-construction phases of the project, BNY Mellon may invest and disburse funds as directed. Types of funds include Debt Service, Debt Reserve, and Maintenance Reserve funds. Please refer to the Appendix for further information about the aforementioned [Project Finance phases and pertinent funds](#).

For Specialty and Public Finance Services, Corporate Trust can be an **escrow agent** for an escrow agreement, holds cash and/or securities in collateral accounts as a trustee and custodian bank in conjunction with an **insurance trust** agent, as well as act as a paying agent. Please refer to the Appendix for additional detail regarding BNY Mellon's roles as an [escrow agent](#) and as an [insurance trust](#).

Finally, Asset and Collateral Administration Services enable Corporate Trust to serve as trustee, custodian bank and collateral agent. However, it is also important to note that depending on the role that BNY Mellon is fulfilling, collateralized obligations may be classified under different service categories. Please refer to the Appendix to view an [example of the escrow agent transition process](#).

In the case of **CDO**, **CLO** and **CFO** deal types, BNY Mellon can act as either trustee or paying agent. Please refer to the Appendix to view [CDO, CLO and CFO process maps](#).

Corporate Trust also provides a number of ancillary, value-added services such as analytics, data aggregation and compliance reporting. Examples include:

- **Arbitrage** yield computation and report schedules
- Deadline tracking to avoid late filing penalties and/or interest
- IRS filing assistance
- IRS audit request response support
- Daily, monthly, quarterly and yearly electronic transaction and position reporting via a web-based interface
- **Calculation Agent** Services

## Inflows / Outflows

Corporate Trust inflows and outflows are as follows:

- Assets (inflow)
- Proceeds (inflow)
- Payments, including principal and interest owed on assets (inflow)
- Investor funds (inflow)
- Fees (inflow)
- Insurance trust income (inflow and outflow)
- Principal and interest (inflow and outflow)
- Payments to investors (outflow)

## Deposits in a Business as Usual Environment

As trustee, BNY Mellon holds deposits for the life of deals that often extend for many years. For example, asset-backed structures have an average life of seven years and municipal/corporate deals for ten or more years.

While some deals may be long, short bursts of deposit activity are also possible due to events such as mergers, public to private transitions, and legal settlements.

Corporate Trust clients have historically relied on BNY Mellon to operate as the trustee in multiple deals, which contributes to the stability in balances. Once BNY Mellon has operated as the trustee for a deal, the client is more likely to rely upon BNY Mellon as the trustee for subsequent deals in order to leverage the existing relationship and consistency in processes.

Regardless of service type, all Corporate Trust clients must adhere to a Trust or Agency agreement, also commonly referred to as an **indenture**. This agreement details, among other items, the use and movement of client funds associated with the deal.

When a client selects an investment option, the Corporate Trust Relationship Manager reviews it, and evaluates its acceptability against the existing client agreement and then executes the transaction. Often, the client agreement restricts the client's investment options and does not permit investment choices outside of the terms of the agreement. These agreements also typically define the duration, size of balances and the permitted investments. They also may require liquidity, meaning that cash must be available on debt service payment dates or a few days prior.

The indenture agreement typically allows clients to move between on and off balance sheet investment options based on the permitted indenture terms and conditions. However, not all agreements allow for off-balance sheet actions.

For example, the clients may initially elect to have their funds invested in an on-balance sheet option, yet later decide to move the funds into a permitted off-balance sheet investment vehicle. While these decisions can cause funds to transfer on and off the balance sheet, total fund population changes are infrequent given the large number of deals, and the myriad restrictions and approvals in the corresponding agreements.

The likelihood of a comprehensive change in the deposit investment instructions across all debt structures is low. Therefore, despite clients' flexibility, balances are stable; the diversity and the detailed agreements enhance the entrenched nature of the deposits.

The dynamics of the transactions (e.g., project financing, asset-backed securitizations) influence the stability of existing deposit balances in Corporate Trust.

In terms of Structured Finance, generally, the paying agent will receive daily payments from the issuer of the securities, and **remits** the accumulated funds to the investors on a monthly basis. If the contract requires, BNY Mellon also maintains reserve accounts, where the issuer must place a certain percentage of the bond proceeds with BNY Mellon should the issuer default. These funds need to be available on debt service payment dates.

Given the limited recourse nature of Project Finance, inflows of cash deposits can vary by transaction based on the cash flows of the individual project.

If BNY Mellon acts as a paying agent exclusively, cash deposits accumulate one day to a few days before debt service payment dates. However, if BNY Mellon is also appointed trustee to the deal, deposit inflows relate to the following:

- Debt service payments - Funded a few days prior to the debt service payment date or based on monthly installments
- Reserve fund deposits
- Cost of issuance



If the project fund becomes depleted due to normal conditions (i.e., money is flowing out to meet the costs of the projects), or a triggering event (i.e., default), some deviation from the flow of cash stated above is possible.

The average lifecycle of a project finance deal is ordinarily 10 to 15 years unless the financing is refunded or refinanced before maturity. Although refund or refinance activity does not affect the overall process, this inflow of funds can result in a large repayment of the notional amount (to compensate for the remaining amortized payments), prior to the stated maturity.

Funds relating to Conventional Debt repacks can be deposited into numerous accounts, including expense reserve accounts, contribution accounts and various collection accounts.

Regarding deposits associated with Specialty and Public Finance escrow agent functions, assets held in escrow must be released once the transaction is concluded. As a result, the movement of cash is limited.

The transition from appointing one escrow agent to another escrow agent is a lengthy process. Generally, Corporate Trust does not accept contracts with termination notice periods less than 30 days. Therefore, it is very probable that, from the time Corporate Trust receives a termination notice to the time the deposited cash exits BNY Mellon, the transfer process would exceed 30 days.

Deposits related to insurance trust services within Specialty and Public Finance are held as collateral in the trust to ensure timely payoff should an insurance-related event occur. The assets may be reinvested in short term securities.

Lastly, CDO, CLO and CFO cash deposit inflows occur on a daily basis. Cash balances are mostly generated from bond issuance and maturing investments. Subsequently, these funds are utilized for the following activities:

- Interest payout on a quarterly basis
- Principal is held to be reinvested in additional collateral, though as the bond retirement date approaches, the cash cannot be reinvested, creating a significant amount of cash held on deposit
- Fund the reserve accounts to pay expenses (up to \$100K for an account)

Exceptions to these previously referenced scenarios may occur in the event of a failed compliance test, triggered by poor manager performance or market conditions. In such case, the reinvestment period would terminate.

Deposits held in Corporate Trust accounts can be classified into two broad categories:

#### 1) Products Generating Regular Payment Activity

Debt related products have a regular payment activity associated with their debt service payment. Regular spikes occur around debt service payment dates. Cash builds up prior to debt service payment dates, usually a day or two before. These balances are generally held for one day and then released. Payment dates can include, but are not limited to, the 14th of each month, 24th of each month, month-end and quarter-end.

Products generating regular payment activity include conventional debt products and structured finance products (e.g., project finance and ABS/MBS, respectively).

#### 2) Products Where Payment Activity is Driven by Events

Certain products will generate minimal or no payment activity because BNY Mellon is contractually mandated to hold cash for specific triggering events or lack thereof.

For example, under an escrow agreement, the movement of cash is limited and must be returned at the conclusion of the deal. As a result, cash exhibits very little activity.

Products associated with event driven payment activity include specialty and public finance related products (e.g., escrow agent and insurance trust agent, respectively).

### **Deposits in a Stressed Environment**

Corporate Trust clients ordinarily have an existing trust agreement with BNY Mellon. The trust agreement may contain clauses that explain the general stickiness of Corporate Trust deposits.

One constraint are rigorous termination clauses. The trustee can be terminated if it fails to perform its roles as defined by the trust agreement. The contract normally requires that the resigning trustee appoints a successor. Under certain circumstances, where the trustee is not responsible for designating a successor trustee, the trustee could resign without identifying a successor.

A second obstacle are client funds movement restrictions. The movement of client funds associated with the underlying transaction is restricted per the agreement. It can take in excess of 90 days to transition services from one trustee to another as this is a highly complex process.

The impact on Corporate Trust deposits of a BNY Mellon idiosyncratic stress event would depend upon the severity and duration of the event.

For a shorter-term and/or less severe event (e.g., a temporary operational event), it is unlikely that a significant portion of clients would transfer services or a deal stipulation would not be triggered.

For a sustained and/or severe event (e.g., loss of investment grade rating), it is assumed that a loss of relationships would occur over several months as service arrangements are transferred. Again, this is attributed to the many barriers that exist (bondholder approval, lengthy onboarding, etc.) that prevent relationships from moving quickly to other providers.

The impact of a systemic event, in which other institutions are at risk as well as BNY Mellon, would be less unfavorable than an idiosyncratic event.

In this event, it can be assumed that clients would continue to maintain services with BNY Mellon given the lack of safe alternative. Uninvested cash, could however, be quickly repositioned off balance sheet (e.g., to Treasury funds) in a flight from the banking sector. However, this potential movement is greatly dependent on the permitted investment criteria.

## 7. TREASURY SERVICES

### Overview

Treasury Services deliver cash management and clearing solutions for corporate and institutional global treasury needs.

Cash management services include traditional services like payables and receivables, as well as trade finance services. Payments services are largely composed of currency movement needs, such as **USD clearing**, EUR/GBP clearing services, and analytics related services.

Ultimately, these services enable clients to:

- Optimize cash flows
- Maintain liquidity
- Manage financial and operational risk
- Facilitate payments across global markets

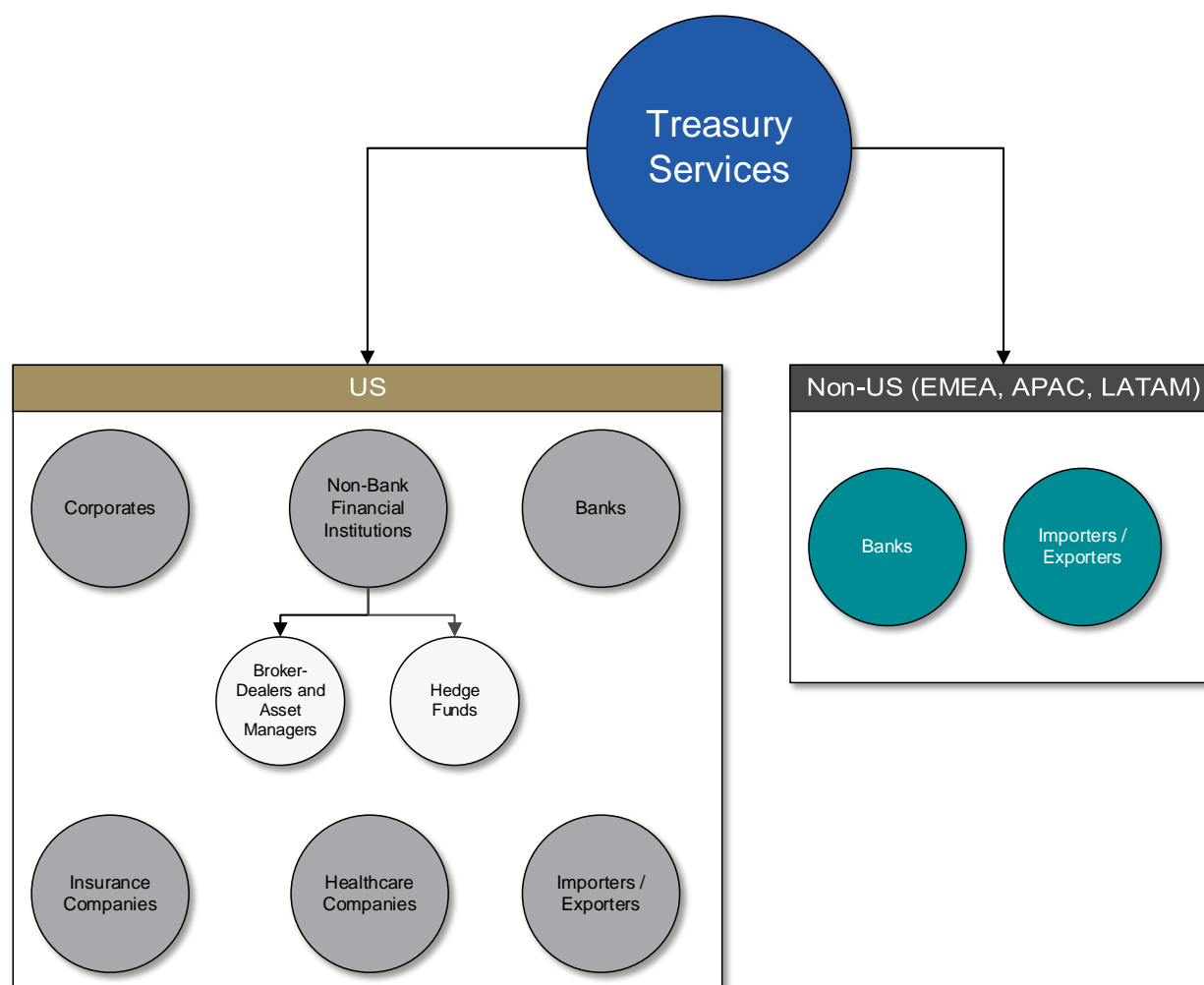
### Clients

Clients turn to Treasury Services as a payment provider to send and receive payments to anyone around the globe. With payment channels ranging from high to low value, next day to same day or even real time in some countries. BNY Mellon strives to provide clients the ability to send and receive any payment type, through any channel, with appropriate risk controls, globally.

Treasury Services clients include mainly domestic banks and foreign banks, non-bank financial institutions (e.g., **broker-dealers**, asset managers, and hedge funds), corporates, as well as importers and exporters through more than 1,600 correspondent banks.

Treasury Services is primarily a U.S dollar business, irrespective of clients' country of **domicile**, and is largely driven by financial institution clients. A significant amount of Treasury Services deposit balances are held in **nostro accounts** by correspondent banks for which BNY Mellon provides USD clearing services.

A broad overview of Treasury Services clients and their associated geographies are as follows.



## Service Types

Of the cash management and clearing operational services provided by Treasury Services, five primary components and corresponding sub-components make up these functions. They are as follows:

Accounts Payable	Accounts Receivable	Investment Sweep Services	Global Payments	Trade Finance Service
<ul style="list-style-type: none"> <li>Controlled Disbursements</li> </ul>	<ul style="list-style-type: none"> <li>Wholesale Lockbox</li> <li>Retail Lockbox</li> <li>Electronic Receivables Payment Service</li> <li>International Cash Letter</li> <li>Remote Check Deposit</li> <li>Foreign Check Collection</li> </ul>	<ul style="list-style-type: none"> <li>Automatic Investment Service</li> <li>Late Night Investment Service (LNI)</li> <li>Zero Balance Account</li> </ul>	<ul style="list-style-type: none"> <li>USD Clearing</li> <li>Consumer Electronic Receivable (CER)</li> <li>Foreign Currency Payments and Receipts</li> <li>FX Payments/iDeal Forex</li> <li>iACH US Dollar ACH</li> <li>USD Funds Transfer</li> <li>World Wire Express</li> </ul>	<ul style="list-style-type: none"> <li>Financial Institution services, including:               <ul style="list-style-type: none"> <li>Letter of Credit Intermediary</li> <li>Reimbursement Claims Services</li> <li>Risk Mitigation Services</li> <li>Collection Services</li> </ul> </li> <li>Corporates services, including:               <ul style="list-style-type: none"> <li>Supply chain financing program</li> </ul> </li> </ul>

Moreover, numerous secondary services sustain and supplement the aforementioned operational services to deepen the entrenchment of client relationships. These offerings include:

- Bankruptcy Trustee Servicing
- Data Translation Services
- Electronic banking information infrastructure (including the Masterfile Payment System)
- **Retained assets** record keeping
- Data Translation Services
- **Private Label** services
- Quality assurance pre-balance checks
- Fraud prevention tools
- Convert consumer checks to **ACH** transactions
- Global payments infrastructure known as the Enterprise Payment Hub
- **SWIFT** global financial information system
- Application Programming Interfaces, or APIs
- Data Exchange
- ACH Special Receipts

Please refer to the Appendix for further detail on operational services such as *accounts payable services (including controlled disbursements), wholesale and automated lockbox, retail lockbox, electronic receivables payment service, international cash letter, remote check deposit, foreign check collection, Automatic Investment Service, Late Night Investment Service (LNI), Zero Balance Account (ZBA), USD ACH, USD Clearing, Consumer Electronic Receivables (CER), FX Payments/iDeal Forex, Foreign Currency Payments and Receipts, iACH, USD Funds Transfer, World Wire Express, Trade Service Finance (Financial Institutions), Trade Service Finance (Corporates), reimbursement claims, risk mitigation, and collections services.*

In addition additional detail regarding *Bankruptcy Trustee Servicing, Retained Assets, Data Translation Services, the Masterfile Payment System, Data Exchange, Private Label, SWIFT, and ACH Special Receipts* is also located in the Appendix.

## Inflows / Outflows

Inflows and outflows within Corporate Treasury are summarized as follows.

- Consumer and business payments (inflow and outflow)
- Retail payments (inflow and outflow)
- Credit card payments (inflow and outflow)
- Debit card payments (inflow and outflow)
- Short term cash management investment vehicles, including **repurchase agreements**, money market mutual funds and overnight Eurodollar time deposits (inflow and outflow)
- Capital (inflow and outflow)
- Payroll (outflow)
- Tax refunds (inflow)
- Tax payments (outflow)
- Reimbursement claims (inflow and outflow)
- Cash collateral for risk mitigation services (inflow and outflow)
- Collections payments (inflow and outflow)

## Deposits in a Business as Usual Environment

Clients maintain deposit balances to support and facilitate daily payments associated with **controlled disbursements**.

Due to the nature of controlled disbursements, clients tend to manage cash tightly, avoiding uninvested liquidity. By being apprised of the disbursement activity early in the day, clients maximize (ordinarily through investments), monies in excess of the requisite cash needed to support payments. A liquidity buffer may be held to avoid overdraft.

In some instances, operational delays may force institutions to hold uninvested balances; however, these balances will normally be quickly remitted (i.e., within one to two days).

Wholesale **lockbox** services are customized to meet the needs of clients, and for this reason, can be more complex than retail lockbox services, which are standardized offerings. Wholesale lockbox transactions are ordinarily high-dollar, low-volume payments that are concentrated into a client's demand deposit account after being collected. Conversely, retail lockbox ordinarily consists of high-volume, low-dollar transactions where the payments are remitted into the client's demand deposit account (DDA).

As BNY Mellon is not, in most cases, a concentration bank for its wholesale lockbox clients, monies deposited into client accounts are closely managed. The payments are deposited into the clients DDA and, ordinarily, are transferred to clients' **concentration banks** or are invested elsewhere.

Although uncommon, returned items (i.e., bad checks) can result in client overdraft. Inasmuch, a cash buffer may be maintained to avoid overdraft fees. Additionally, under certain circumstances, balances may be held at BNY Mellon for one to two additional days as a result of operational constraints.

For wholesale lockbox clients and other **B2B** solution clients not concentrating with BNY Mellon, cash balances are expected to correlate with the level of flows to the lockbox sites. Balances primarily result in operational delays (typically 1-2 days) as funds are processed through the lockbox, remitted to and through the client's depository account hierarchy, and repositioned to liquidity accounts. As such, it is expected that deposit spikes may occur on typical wholesale **accounts payable** runs due to events such as payroll (Fridays and month end), or a few days after due to operational delays.

For retail lockbox and other **C2B** solution clients not concentrating with BNY Mellon, receipts and corresponding cash balances would be expected to occur continuously throughout the month.

Clients leave cash to support clearing transactions and initial margin payments for central **counterparty** clearing houses.

Typically those who do USD clearing, such as a foreign banks, leverage the **LNI** service. The amount of cash required for clearing is extremely volatile as it is driven by the client's trading and foreign exchange activity and is not under the client's control. Therefore, it is expected that foreign banks will leave uninvested liquidity in accounts to ensure adequate cash balances are available to meet volatile funding needs. Furthermore, it has been observed that foreign banks do not have a propensity to invest in money market funds. Domestic banks, however, utilize both balance sheet and off-balance sheet vehicles.

Regarding trade finance, client sophistication and agreement structures primarily influence cash collateral deposits. For example, sophisticated clients may post funds several days prior to payment date depending on their forecasting abilities. In some cases, clients may maintain a liquidity buffer to avoid overdraft fees.

## Deposit Behavior in a Stressed Environment

Implementation of Treasury Service clearing and cash management solutions require significant effort and financial commitments and incur high-switching costs.

Along with the high-switching costs, the relatively low numbers of banks providing these services engender long-lasting relationships with clients, which contribute to balance stability. A substantial portion of BNY Mellon's Treasury Services client base has had a relationship with BNY Mellon for over five years.

The impact on Treasury Services deposits of a BNY Mellon idiosyncratic stress event would depend upon the severity and duration of the event. For a shorter-term and/or less severe event (e.g., a temporary operational event), it is unlikely that a significant portion of clients would transfer treasury services relationships due to the aforementioned switching costs. For a sustained and/or severe event (e.g., loss of investment grade rating), it is assumed that a loss of treasury services relationships may occur, as a result of investment policy requirements, over several months as service arrangements are transferred.

The impact of a systemic event, in which other depository institutions are at risk as well as BNY Mellon, would be less unfavorable than an idiosyncratic event. In this event, it can be assumed that clients would continue to maintain cash management services with BNY Mellon given the lack of safe alternative. Uninvested cash, however, would be quickly repositioned off balance sheet (e.g., to Treasury funds) in a flight from the banking sector, but would be limited due to liquidity need constraints.

## 8. WEALTH MANAGEMENT

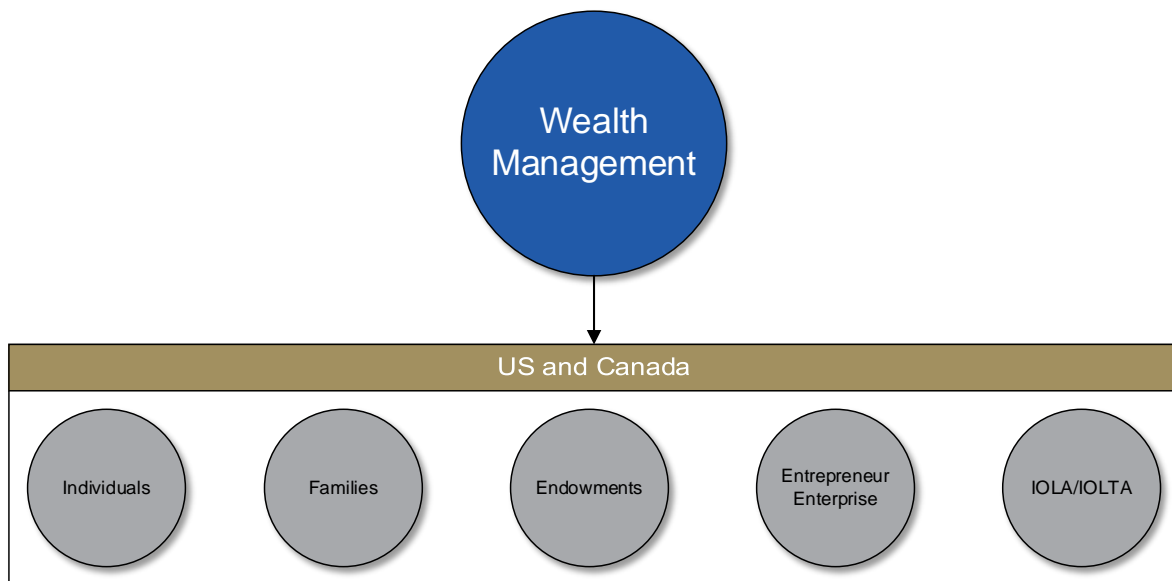
### Overview

Wealth Management deliver custody and cash management services as they relate to clients' investment management and private banking needs. In doing so, BNY Mellon helps clients generate, grow and preserve their wealth over the long term, while enabling them to see how their business fits into the big picture.

### Clients

Wealth Management (WM) offers investment management, wealth and estate planning, private banking, and asset servicing and information management services to individuals and families, family offices, planned giving programs, endowments and foundations, and professionals and institutions.

Traditional banking services are provided to high-net worth individuals and families, foundations, trusts, estates, and related entities. Law firms and private equity firms also utilize BNY Mellon for escrow agency services (lawyers may utilize **IOLA/IOLTAs** in particular). Investment management services are provided to personal, foundations and endowments, educational institutions, corporations and trusts.



### Service Types

There are four service categories pertaining to Wealth Management and subsequent sub-categories. Items in blue denote operational components, while the un-bolded services indicate ancillary, non-deposit generating services that compliment services provided. They are as follows:



Investment Management	Wealth and Estate Planning	Private Banking	Asset Servicing
<ul style="list-style-type: none"> <li>• <u>Strategic Asset Allocation</u> <ul style="list-style-type: none"> <li>• Asset allocation research and testing</li> <li>• Expert guidance and strategy setting</li> </ul> </li> <li>• <u>Strategic Architecture</u> <ul style="list-style-type: none"> <li>• Dedicated private client strategies</li> <li>• Complimentary global asset manager strategies</li> </ul> </li> <li>• <u>Asset Class Investments</u> <ul style="list-style-type: none"> <li>• <b>Equity</b> <ul style="list-style-type: none"> <li>• Large, mid and small capitalization</li> </ul> </li> <li>• <b>Fixed Income Investments</b> <ul style="list-style-type: none"> <li>• Tax exempt</li> <li>• High yield</li> </ul> </li> <li>• <b>Liquidity Management</b> <ul style="list-style-type: none"> <li>• Cash management</li> <li>• Cash sweep</li> </ul> </li> <li>• <b>International Investments</b> <ul style="list-style-type: none"> <li>• Developed and emerging markets</li> </ul> </li> <li>• <u>Alternative Investments</u> <ul style="list-style-type: none"> <li>• Hedge funds</li> <li>• Private equity</li> <li>• Real estate</li> <li>• Socially responsible investing</li> </ul> </li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <u>Fiduciary Services</u> <ul style="list-style-type: none"> <li>• <b>Trustee services</b></li> <li>• <b>Trust, partnership and life insurance vehicles</b></li> <li>• Tax planning and preparation</li> <li>• <b>Family trust pooled investments</b> and accounting</li> </ul> </li> <li>• <u>Wealth and Protection Transfer</u> <ul style="list-style-type: none"> <li>• Estate Planning</li> <li>• <b>Tax-efficient wealth transfer</b></li> <li>• Multigenerational strategies</li> <li>• <b>Dynasty and offshore trusts</b></li> <li>• Business succession and transfer issues</li> </ul> </li> <li>• <u>Philanthropy</u> <ul style="list-style-type: none"> <li>• Planning and administration</li> <li>• <b>Charitable trusts</b></li> <li>• <b>Private foundations</b></li> <li>• <b>Pooled-income funds</b></li> </ul> </li> <li>• <u>Asset-Specific Analysis and Planning</u> <ul style="list-style-type: none"> <li>• Business ownership and closely held assets</li> <li>• Concentrated wealth</li> <li>• Executive compensation</li> <li>• Retirement plans and IRAs</li> <li>• Real estate asset management</li> <li>• Other special assets</li> </ul> </li> <li>• <u>Estate Settlement and Administration</u> <ul style="list-style-type: none"> <li>• Asset valuation and distributions</li> <li>• Real estate services</li> <li>• Succession planning</li> <li>• Tax preparation</li> </ul> </li> <li>• <u>Family Governance</u> <ul style="list-style-type: none"> <li>• Family wealth education and seminars</li> <li>• Family governance insights and trust structures</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <u>Deposit and Cash Management Services</u> <ul style="list-style-type: none"> <li>• <b>Checking and savings</b></li> <li>• <b>Electronic banking and bill payment</b></li> <li>• <b>Cash management</b></li> <li>• <b>Escrow services</b></li> </ul> </li> <li>• <u>Credit and Lending Services</u> <ul style="list-style-type: none"> <li>• <b>Secured and unsecured lending</b></li> <li>• <b>Standby letters of credit</b></li> <li>• <b>Commercial real estate financing</b></li> <li>• Hedging strategies</li> <li>• <b>Jumbo mortgages</b></li> <li>• <b>Construction, co-op and condo financing</b></li> <li>• <b>100% mortgage financing</b></li> <li>• <b>Blanket mortgages</b></li> </ul> </li> <li>• <u>Non-Discretionary Investment Services</u> <ul style="list-style-type: none"> <li>• <b>Self directed, online trading</b></li> <li>• Portfolio monitoring</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <u>Global Custody</u> <ul style="list-style-type: none"> <li>• <b>Domestic and global custody/safekeeping</b></li> <li>• Multi-manager coordination</li> </ul> </li> <li>• <u>Information Reporting</u> <ul style="list-style-type: none"> <li>• Financial reporting</li> <li>• Tax-related reporting</li> <li>• Web-based reporting and analytics</li> </ul> </li> <li>• <u>Performance Measurement and Analytics</u> <ul style="list-style-type: none"> <li>• Global performance reporting</li> <li>• Global Investment Performance Standards (GIPS®) compliant reporting</li> <li>• Performance attribution</li> </ul> </li> <li>• <u>Cash Processing</u> <ul style="list-style-type: none"> <li>• <b>Client or BNY Mellon-initiated cash processing</b></li> <li>• <b>ACH transfers</b></li> <li>• <b>Wire processing</b></li> <li>• <b>Check processing</b></li> </ul> </li> <li>• <u>Partnership Accounting</u> <ul style="list-style-type: none"> <li>• Cash or accrual-based accounting</li> <li>• Section 704c tracking</li> <li>• Financial statement preparation</li> <li>• Tax return and K-1 preparation</li> </ul> </li> </ul>

Within Private Banking, the **Cash Management Access Account (CMAA)** is offered to clients a singular solution which aggregates a deposit **checking account** and a self-directed brokerage account together in one place.

The self-directed brokerage account allows the client to invest in various investment vehicles that would ordinarily be found at a brokerage firm, while the short-term cash balances provide clients with the functionality of a normal checking account. Comprehensive, integrated banking features offer the flexibility to manage the client's day-to-day financial needs. Funds to cover banking activities, such as

ATM withdrawals, check card purchases or check payments, are redeemed automatically from the sweep balance, allowing uninvested cash to continue to earn income.

Deposits generated by investment management services are primarily attributed to investment sweeps. As such, the **Cash Reserve Accounts (CRA)** provides clients with an investment sweep vehicle option when BNY Mellon is authorized to act as a fiduciary.

A CRA is an investment sweep vehicle offered by BNY Mellon to clients when the bank is authorized to act in a fiduciary capacity.

CRAs are a byproduct of the offerings provided by investment management. Should the cash balance of a client account exceed the threshold (liquidity needed to make payments) of the client's average annual portfolio, the excess funds will be swept into a CRA.

These uninvested monies must be held in fiduciary or custody accounts and are swept daily into a CRA based on predefined client specifications (i.e., sweep vehicle type). All funds in the CRA are deposits of BNY Mellon and are backed by the bank. CRAs are FDIC-insured up to \$250,000 per depositor.

Please refer to the Appendix for [CMAA](#) and [CRA](#) process flows.

## Inflows / Outflows

Inflows and outflows within Private Wealth are summarized as follows:

- Cash (inflow and outflow)
- **CD** (inflow)
- Interest (inflow)
- **Money market** instruments (inflow)
- Money market withdrawals (outflow)
- Donations (inflow)
- Expense payments (outflow)
- Fees (outflow)

## Deposits in a Business as Usual Environment

Deposits held in CMAAs are held to satisfy client banking activity. Withdrawal activities (i.e., ATM withdrawals, check payments, and check card purchases) are redeemed from the sweep balance of the CMAA while the excess balance is swept to avoid uninvested surplus funds.

Checking accounts are often associated with routine, scheduled electronic payments.

A CD restricts holders from withdrawing funds on demand. Although it is still possible to withdraw cash prior to the term of the CD, this action will often incur a penalty. The term of a CD generally ranges from one month to five years.

Early withdrawal penalties are determined by the duration of the CD. Retail CDs with maturities of one year or less generally demand three months' interest on the principal amount withdrawn as a penalty. Retail CDs with maturities of more than one year but less than five years and retail CDs with maturities in excess of five years draw six months' interest and one years' interest on the principal dollar amount withdrawn as a penalty, respectively. If the investor should make an early withdraw from a CD without accumulating sufficient interest to cover penalty fees, an institution may deduct the discrepancy from the principal. These terms vary by banking institution and also vary for Jumbo CDs (a CD with a minimum denomination of \$100,000 as a tradeoff for higher rates).

Clients utilizing investment management services ordinarily hold cash balances while seeking out a suitable investment, at times resulting in uninvested cash. The uninvested monies are swept into an

investment sweep vehicle, during the period where clients are unable to make desirable investments, selected by the client.

The CRA is the main deposit-generating service offered by Wealth Management's investment management services. These deposits are utilized to pay fees and other bills. Generally, a set percent of client portfolios hold cash to support payments. Un-invested cash held in fiduciary or custody accounts exceeding this threshold will be swept daily into a CRA.

Overall, the payment profile of Wealth Management deposits is described as follows:

#### Private Banking Services

Clients utilizing BNY Mellon's private banking services will maintain a liquidity buffer to support payment of traditional banking services transactions. Balance levels, therefore, are expected to remain stable throughout the year.

#### Investment Management Services

Clients utilizing investment management services will ordinarily hold a percentage of their average annual portfolio in cash. This liquidity is used to support management fees and other associated payments. These payments vary in terms of periodicity and size based on the client's investment portfolio and activity.

### **Deposit Behavior in a Stressed Environment**

Wealth Management services tend to lack immediate portability. Services offered to clients are highly customized and require a lengthy onboarding process. Onboarding a new client can take from three to six months. The long duration is attributable to the need to find an advisor and team of investment strategists, transfer funds, and establish agreements. Moreover, the customization of contracts lengthens the process to onboard new clients.

In previous systemic stress events, private banking and investment management clients maintained similar levels of liquidity to that of a non-stressed period. The behavior of clients remained consistent as CRA deposits are fully collateralized and both CRA deposits and traditional banking deposits are FDIC insured.

As deposits associated with investment management and private banking services are FDIC insured (and fully collateralized as it relates to CRA deposits), BNY Mellon does not anticipate significant deposit runoff as a result of an institutional downgrade or other idiosyncratic event(s).

## 9. BROKER DEALER SERVICES

### Overview

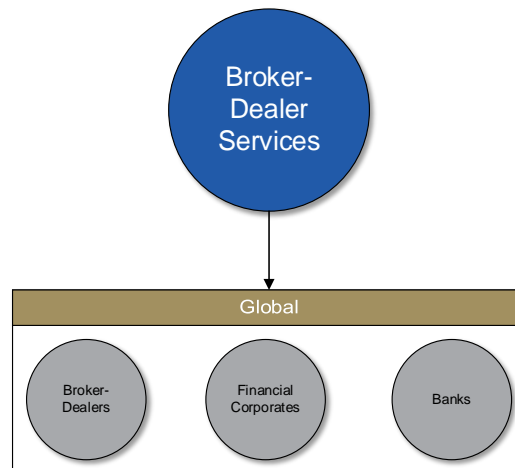
Broker-Dealer Services (BDS) provides collateral clearing solutions for dealers and investors around the globe as well as global securities and U.S. Government securities clearing.

### Clients

Broker-dealers facilitate the free flow of securities on the open market and can also buy or sell securities in their own accounts to ensure there is a market in those securities for their clients. Broker-dealers are also connected with investment banking functions, particularly in the underwriting of securities offerings. They may also turn to the repo market as a means of financing.

BDS' client profile largely consists of broker-dealers, banks and central clearing counterparties, including 19 of the 23 primary dealers worldwide as of May 2016.

BDS clients may also consist of banks and other financial corporations looking to increase their capital amounts.



### Service Types

BDS offers three primary operational services.

The first includes the clearing of US government securities and settlement, which is processed through the **Fedwire Securities Service**. Here, BDS provides clearance and settlement services for transactions involving U.S. government, agency, and other securities.

Secondly, BDS provides global securities clearing and settlement of **DTC**-eligible securities through the DTC. The settlement of these transactions takes place at the end of each business day.

Third are tri-party repurchase agreement (repo) clearing and settlement services in which BDS acts as a third-party agent for U.S. tri-party repo transactions of Fedwire-eligible securities and DTC-eligible securities.

These transactions involve trade settlement, custody of securities, collateral valuation and eligibility screening services to broker-dealer clients and their investor counterparties. BDS' involvement in a tri-party repo transaction begins after a dealer client and investor counterparty agrees to a tri-party repo trade and sends instructions regarding the transaction.

BDS maintains custody of the collateral (the subject securities of the tri-party repo transaction) and executes the agreed payment and delivery instructions provided by the parties to the transaction. Collateral providers are typically fixed income securities broker-dealers seeking to finance securities that can also be used as collateral. Collateral receivers are primarily money market funds, custodial banks investing cash collateral on behalf of their securities lending clients, and other asset managers.

Specific to BDS line of business, broker-dealers are subject to the SEC Rule 15c3-3 (please refer to the Appendix for rule verbiage). As such, some BDS' deposit balances may be associated with this requirement.

Please refer to the Appendix for additional detail and corresponding process flows regarding the [Fed Clearing Process](#), [DTC Clearing Services](#), and the [Tri-Party Repo Process](#).

## Inflows / Outflows

Inflows and outflows within BDS are summarized as follows:

- Securities (inflow)
- Cash (inflow and outflow)

## Deposits in a Business as Usual Environment

BDS' service offerings are cash intensive and spur deposit balances. Certificate of Deposit interchange, global clearing, and U.S. global clearing (DTC Institutional Clearing), are less cash intensive.

US government securities and settlement transactions involve an immediate exchange of cash and securities throughout the day due to the real-time gross settlement nature of the Fedwire Securities Service.

DTC clearing activities also tend to be associated with significant cash balances. Once the Federal Reserve Bank / DTC receive securities, cash is deposited with BNY Mellon and then transferred to the investor. This activity generates a continuous stream of intraday cash to support such securities settlement activities. Excess liquidity is typically invested overnight, except in cases where favorable investments cannot be found.

Real-time gross settlement for Fed clearing transactions is currently supported by the Government Securities Clearance system (GSC); however, by the close of calendar year 2016, the Broker Dealer Clearance system (BDC) will supplant GSC.

Collateral management functions in a tri-party repo activity generate significant cash balances.

In a tri-party repo transaction, BNY Mellon executes payment remittance and is custodian to the collateral. Substantial deposit balances are associated with payment remittance as the investor in the trade must fund the tri-party repo account at BNY Mellon prior to disbursement to the dealer.

Historically, BNY Mellon extended intraday credit to broker-dealer clients who utilized BDS services if they had insufficient liquidity available at the time of trade settlement.

However, BNY Mellon is moving away from offering intraday credit as part of the US Tri-Party Repo Infrastructure Reform Program Target State. Effective April 2015, BNY Mellon no longer provides discretionary **uncommitted** intraday credit to its broker-dealer clients in connection with their tri-party repo transaction settlement activity. Furthermore, BNY Mellon charges significant overdraft fees by the minute when clients do not hold adequate liquidity.

In response to these changes, clients are maintaining sufficient deposit balances to avoid costly overdraft charges.

Overall, the deposit profile within BDS is indicative of the following factors.

- Frequency of payments – Payments are processed continuously throughout each business day. Some spikes are observable due to settlement deadlines and tri-party unwind (e.g., 3:30PM each day)
- Non-standard size of payments
- Timing of payments – Surges in payment activity are observable during month ends, on coupon payment dates and Fed issuance dates. Conversely, a decline in payment activity occurs around bank holidays (e.g., day before Thanksgiving)

Payment profile aside, BDS clients do not exhibit any distinct behavioral characteristics, as the client base is homogeneous and is largely comprised of broker-dealers.

These clients typically engage BNY Mellon to provide both clearing and tri-party repo services. It has been observed that roughly 90% of the total client population utilizes both clearing and tri-party repo services, while the remaining population engages BNY Mellon to provide clearing services, exclusively. Clearing services are cash intensive and generate the preponderance of overnight deposits. Tri-party services can generate intraday deposit balances to facilitate tri-party settlement activities.

Currently, however, BDS does not distinguish between monies used to support clearing or tri-party repo services. Moreover, deposits associated with clearing services are often used in conjunction with tri-party repo services (should there be remaining liquidity that is unused from clearing services).

## Deposit Behavior in a Stressed Environment

On-boarding requirements for BDS services are extensive. Accordingly, shifting services to a competitor bank is a costly process. BNY Mellon, moreover, is only one of two banks permitted to clear tri-party repo transactions and clears most transactions through the Federal Reserve Bank of New York for 19 of the 21 primary dealers. These capabilities unique to BNY Mellon make the transitioning of services challenging.

Additionally, collateral management and securities clearing services tend to be relationship-driving services offered by BNY Mellon to clients, often resulting in ancillary services provided by other lines of business. BDS services are, therefore, less likely to be terminated or transitioned than those that are not anchor services. Clients are also becoming less likely to hold duplicate or backup service arrangements with other institutions due to the increasing costs of doing so. These factors make the migration of services to another institution less probable.

Lastly, aside from BNY Mellon, JPMorgan is the only other institution who also has the capabilities to settle securities for broker-dealers. However, they plan to exit the business by the end of 2017.

While services may lack immediate portability and a portion of BDS' deposit balances may be associated with SEC Rule 15c3-3 (defined in Section 6.1) requirements or other custodial or fiduciary requirements, the majority of deposits are owned by clients and used to conduct transaction activity and settle trades. These balances are generally held in DDAs with no withdrawal limitations.

Furthermore, sophisticated clients monitor excess cash closely and seek to avoid uninvested cash balances apart from a liquidity buffer to avoid overdraft fees. In a market-wide stress event, BDS anticipates that clients would hold liquidity only to support operational activity, and would reposition any excess liquidity off balance sheet in a flight from the banking sector.

Second, the broker-dealer must maintain a reserve of cash or qualified securities in an account at a bank that is at least equal in value to the net cash the broker-dealer owes to customers.

The calculation of net cash set forth in the customer protection rule requires that the broker-dealer add all customer credit items (such as an amount equal to any free cash in customer securities accounts) and deduct from such credit items, any customer debit items (such as margin loans). The net amount by

which customer credit items exceed customer debit items, if any, must be on deposit in the broker-dealer's customer reserve account.

BDS clients generally maintain deposit agreements with their clients that contain provisions, which require funds to be held at depository institutions with minimum credit ratings, most commonly **investment grade**.

Downgrades of BNY Mellon's credit ratings below these established thresholds would seem to suggest that clients would move funds away from BNY Mellon, thereby reducing deposit balances. However, given the lack of alternatives in the industry, this factor may prove to be moot.

## 10. GLOBAL COLLATERAL SERVICES (GCS)

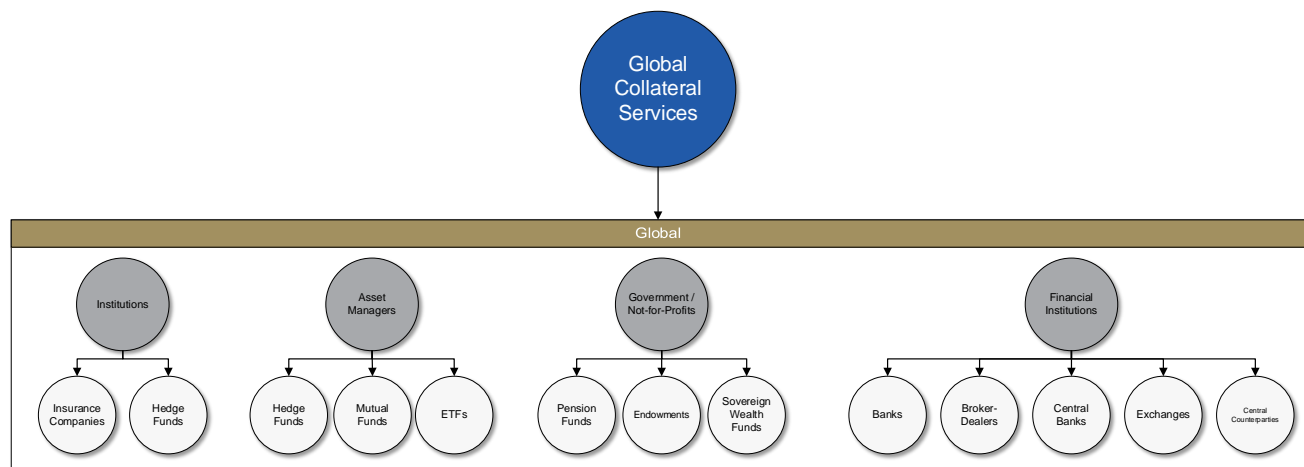
### Overview

BNY Mellon helps improve efficiency in settling transaction types requiring collateral, including repurchase agreements, **derivatives**, securities lending, **OTC** transaction clearing house margin, among others.

As part of the Markets investment category, the Global Collateral Services (GCS) business provides cash management, clearing and custody collateral and liquidity solutions to clients through a propriety web interface.

### Clients

Non-regulated funds, broker-dealers and financial institutions are the primary clients of GCS. The following is an overarching view of all GCS clients.



As these clients continue to face changing market dynamics and increased global regulations, these clients face heightened collateral requirements with the aim of reducing the risk of negative systemic events.

Additionally, collateral deposited between trading partners set standards on the type and amount of collateral required to conduct business, trades conducted through central clearinghouses and using collateral more efficiently overall.

### Service Types

Cash management, clearing and custody services that Global Collateral Services provides enables clients to optimize their collateral at the point of trading through liquidity.



As a result, the following services are offered:



Collateral Management and Segregation (CMS)	Securities Finance (SF)	Liquidity Services (LS)
<ul style="list-style-type: none"> <li>• Automated Deal Matching</li> <li>• Optimal Allocation</li> <li>• Eligibility Screening</li> <li>• Real-Time Activity Reporting</li> <li>• Identify how to collateralize transactions</li> <li>• Explore ways to free up liquidity</li> <li>• Improve operational efficiencies across market participants</li> </ul>	<ul style="list-style-type: none"> <li>• Financing and Margin Management Monitoring for clients who borrow and/or lend securities from institutional investment portfolios</li> <li>• Portfolio Reconciliation</li> <li>• Real-time web portal</li> <li>• Collateral requirements and portfolio reconciliation automation</li> <li>• Flexible Service Model to mitigate risks</li> </ul>	<ul style="list-style-type: none"> <li>• Liquidity DIRECT portal to purchase and redeem money market funds and non-U.S. liquidity funds</li> <li>• Yankee Swap<sup>SM</sup> enables clients to deposit cash at licensed U.S. branches of non-U.S. banks</li> <li>• Third Party Bank Deposits allow clients to deposit cash at different institutions through one deposit in one account</li> </ul>

Collateral Management and Segregation (CMS) provide clients with the capability to evaluate collateral against eligibility requirements, monitor a global inventory of collateral, and manage margin parameters.

Securities Finance (SF) provides financing and margin requirement monitoring for clients who borrow and/or lend securities from institutional investment portfolios. This service generates incremental revenue to an investment portfolio by lending securities that are not otherwise being actively traded. In addition, SF can provide loans to institutional investors secured by eligible global fixed income and equity securities.

Liquidity Services (LS) provides clients with a single point of access to a suite of money market funds and securities to streamline the management of short-term investments. From time to time in the Liquidity Services business, client funds may be swept into a short-term deposit until the funds reach their client designated destination in one or more of the money market mutual funds maintained on the LS menu of money market funds.

This AIS or Treasury Services typically service the underlying cash account of a GCS client. Additionally, GLS within AIS is particularly responsible for providing LS to clients.

## Inflows / Outflows

Inflows and outflows within GCS are summarized as follows:

- Expenses (inflow)
- Accounts payable (inflow)
- Deferred income (inflow)
- Funds

## Deposits in a Business as Usual Environment

Most GCS deposits are linked to the businesses who maintain the client relationship. As such, most GCS and LS deposits are allocated to the businesses that utilize GCS' services. In addition to AIS, GLS and Treasury Services group mentioned above, other businesses connected to GCS deposits include BDS and Depositary Receipts.

## Deposit Behavior in a Stressed Environment

Please refer to BDS, AIS, Treasury Services, and Depositary Receipts sections for further information.

## 11. GLOBAL MARKETS

### Overview

Global Markets provides clearing activities associated with trading services.

### Clients

Corporates and Government Sponsored Entities (GSEs) are the central Global Markets clients. Clients seek to hedge their risk exposure or speculate on a wide range of financial assets like commodities, equities, currencies, and even interest rates, and do through a number of trade mechanisms, such as foreign exchange (FX), derivative and other general trade activity.

### Service Types

BNY Mellon offers operational clearing services to clients which handle the confirmation, settlement and delivery of FX, derivatives, and other general types of trade activity.

### Inflows / Outflows

Inflows and outflows within Global Markets are summarized as follows:

- Stocks (inflow and outflow)
- Bonds (inflow and outflow)
- Commodities (inflow and outflow)
- Currencies (inflow and outflow)
- Interest rates (inflow and outflow)
- Market indexes (inflow and outflow)
- FX payments (inflow and outflow)

### Deposits in a Business as Usual Environment

Deposit balances are residuals of the cross-jurisdictional clearing and netting process.

### Deposit Behavior in a Stressed Environment

Given the size and depth of services offered by Global Markets and reputation of being a safe haven, BNY Mellon would could to conduct clearing activities in the event of a crisis.

## 12. DEPOSITARY RECEIPTS

### Overview

The Depositary Receipts (DR) business provides clients with custody services encompassing integrated **depository receipt** and stock transfer agency services.

### Clients

Depositary Receipt clients are non-US domiciled customers trading in non-US domiciled exchanges. BNY Mellon is one of four global Depositary Receipt providers and acts as a depository for over 1,300 sponsored programs.

BNY Mellon works with DR issuers, investors, and brokers in the U.S., Europe, and Asia and to a lesser extent, in the Middle East, Latin America, and Africa. DR issuing companies include companies operating globally in nearly all industries. Depositary Receipts are typically denominated in U.S. Dollars.

### Service Types

Through the issuance and servicing of DR shares, BNY Mellon helps clients enhance their profiles, improve liquidity and elevate shareholder value.

Depositary Receipts also helps clients adhere to SEC regulations and obtain dividend payment options. BNY Mellon's Depositary Receipts balances correlate strongly with market and economic conditions; investor activity, demand for shares, and the resulting movement of funds between parties all influence the level of balances.

Depositary Receipt shares are negotiable securities (issued by a depository bank such as BNY Mellon), that represent the underlying securities of a non-US company purchased in its home country and held by a local sub-custodian in that country. BNY Mellon issues Depositary Receipts under both unsponsored (no formal agreement with issuer) and sponsored (issuer has sought SEC registration, adhered to U.S. GAAP and signed an agreement with BNY Mellon) programs.

### Inflows / Outflows

Inflows and outflows within Depositary Receipts are summarized as follows:

- **American depository receipt** (inflow)
- Dividends (inflow and outflow)

### Deposits in a Business as Usual Environment

Depositary Receipt clients generally maintain deposits only to facilitate transactions and are not focused on enhancing interest revenue. Rather, cash is always on hand to pay out deposits. While the DR business is operational in nature, the business elected not to go through the operational attestation process due to its small volume of deposits.

As such, these balances have historically tended to exhibit stability, because of their contractual requirements. Depositary Receipts program contracts often contain termination clauses that require a notice period of 30 days if BNY Mellon is the terminating party and 60 days if the issuer terminates the contract.

Furthermore, new Depositary Receipts issues require a multi-step onboarding process to set up, register, and place a new Depositary Receipts issue. This process includes both operational and registration requirements.

While unsponsored programs and Depositary Receipts programs with existing sub-custodians can be established quickly, the operational complexity of sponsored programs will vary depending on the size, type of DR, market characteristics, and the issuer's home country. Sponsored programs may take between 10-12 weeks for an OTC Depositary Receipts and 16-20 weeks for a listed Depositary Receipts.

Lastly, a broker must have a credit line in place with BNY Mellon in order to secure the Depositary Receipt by cash collateral (pre-release balance). If a broker requests pre-release, BNY Mellon may require a credit examination before extending a credit line to the broker.

### **Deposit Behavior in a Stressed Environment**

Due to stringent requirements and time-intensive nature of custodian set up process, it is unlikely that clients would shift away from BNY Mellon in the event of a crisis.

## 13. CREDIT SERVICES

### Overview

Credit Services provide loans and lines of credit to cash management and **platinum clients**.

### Clients

Credit Services clients are platinum mirror those customers within Treasury Services. These clients in need of additional capital often turn to BNY Mellon for corresponding solutions.

### Service Types

BNY Mellon provides credit, commitment and loan services.

### Inflows / Outflows

Credit Services primarily sees inflows and outflows of collateral pledged against loans.

### Deposits in a Business as Usual Environment

As the business continues to provide loans and lines of credit to clients, deposit balances should continue as well.

### Deposit Behavior in a Stressed Environment

Please refer to the section above.

## 14. PERSHING

### Overview

A legal entity, Pershing does not have deposits. Instead, they have broker-dealer payables are treated in a different manner under regulatory guidance.

### Clients

Pershing clients seek to leverage global financial business solutions to fund investments and grow capital. Spanning across the world, Pershing clients include advisors, asset managers, broker-dealers, family offices, fund managers, and registered investment advisor firms.

### Service Types

To help clients achieve their goals, the following operational service components are offered:

- Clearing
- Custody

Additionally, a number of supplementary services are also provided to help clients strategize, manage costs, and comply with regulations. These include:

- Alternative Investment Solutions
- Annuity Solutions
- Cash Management Solutions
- Education and Health Savings
- Fund Solutions
- Lending Solutions
- Wealth Management
- Marketing and Practice Management,
- Prime Solutions,
- Retirement Solutions,
- Technology and Enterprise Data Management,
- Trading Services

### Inflows / Outflows

Inflows and outflows within Pershing are summarized as follows:

- Equities (inflow)
- Fixed income (inflow)
- Annuities (inflow)
- Multi currencies (inflow and outflow)
- Off-balance sheet payables (outflow)
- Repos (inflow)
- Expenses (outflow)

### Deposits in a Business as Usual Environment

Some clients, such as government entities, require BNY Mellon to set-aside collateral to assure the security of those deposits. Pershing's clients do not require the collateralization of payables. The

collateralization of deposits is distinctly different from the collateral required to fulfill the structure of a repo transaction, to secure a loan, or fulfill SEC Rule 15c3-3 requirements.

The terms of a repo agreement includes the posting of collateral by the counterparty receiving funds so that both sides of a repo transaction can be fulfilled. In that structure, any collateral collected is simply part of the repo transactions between Pershing and its counterparties.

### **Deposit Behavior in a Stressed Environment**

Due to BNY Mellon's reputation of being a safe-haven in times of stress, it is unlikely that Pershing would see negative deposit behavior.

## 15. CORPORATE TREASURY

### Overview

Corporate Treasury is responsible for managing the firm's investment portfolios and its liquidity and capital position.

### Clients

Corporate Treasury does not have clients that it serves. Instead, the business enters into contracts to purchase deposits as part of an overall investment strategy for BNY Mellon.

### Service Types

Corporate Treasury provides services that are most closely related to money for deposits.

### Inflows / Outflows

Inflows and outflows within Corporate Treasury are summarized as follows:

- Eurodollar (inflow)
- Collateral on Derivatives (inflow)
- Cash (outflow)

### Deposits in a Business as Usual Environment

Deposits held in Corporate Treasury fall into two categories.

The first is discretionary balances sourced through deposit brokers (**offshore**) or internal clients who are seeking higher yield for overnight cash on a non-consistent basis. In this scenario, these deposits are being purchased on behalf of BNY Mellon.

The second is cash collateral held against derivatives transactions. This requirement is also tied to the risk appetite.

### Deposit Behavior in a Stressed Environment

BNY Mellon would continue to see deposits during times of stress. It is expected that the firm would be able to source money in a macro-stress environment, but not necessarily in an idiosyncratically stressed scenario.



## 16. CLIENT SERVICE DELIVERY

### Overview

Client Service Delivery performs operational functions that underlie business offerings.

### Clients

All clients within BNY Mellon have the potential to fall under Client Service Delivery in the event of incorrect information or aggregated payments.

### Service Types

To remedy inaccurate data, Client Service Delivery provides research and resolution to errors. The business aggregates payments as well.

### Inflows / Outflows

Inflows and outflows within Client Service Delivery are summarized as follows:

- Securities (inflow and outflow)
- Cash (inflow and outflow)
- Incorrect data (inflow)

### Deposits in a Business as Usual Environment

Any deposit balances that occur do so as a result of incomplete wire information or aggregation payment accounts.

### Deposit Behavior in a Stressed Environment

As BNY Mellon is known for being a safe haven in times of duress, it is plausible to surmise that given the increased volume of operational functions, a direct correlation could also be made that suggests deposits relating to erroneous payment account information may result as well.

## 17. BNY MELLON'S RESILIENCY TO IDIOSYNCRATIC STRESS EVENTS

### Broker-Dealer Deposits

History reveals that when a large broker dealer client experiences severe financial distress, it does not necessarily result in a decline in deposit levels for the institution acting as its agent.

Prior to 2008, JPMorgan Chase (JPM) served as tri-party repo and government clearance services agent for Bear Stearns and Lehman Brothers. The chart below depicts total quarter end deposits for JPM from December 2007 to December 2008. From December of 2007 to March of 2008, deposits at JPM increased by \$21 billion despite the failure of its client Bear Stearns and that troubled firm's subsequent merger with JPM.

From June to September of 2008, deposits increased again (by \$247 billion), despite the bankruptcy filing of another prominent client of JPM's – Lehman Brothers -- in the middle of September. Deposits continued to increase over that amount through the end of 2008.

An analysis of these examples would allow BNY Mellon to posit that the market did not view JPM negatively because its client experienced trouble. In the case of Bear Stearns, this is even more significant, because JPM assumed the entire firm and did so without experiencing a significant decline in deposit funding levels.



In 2012, JP Morgan Chase & Co. experienced further financial distress when, in the second quarter, they announced a \$2 billion trading loss. This loss (which eventually totaled \$6.2 billion) resulted from the complicated credit derivatives position taken by trader Bruno Iksil (the "London Whale") based out of JP Morgan's Chief Investment office. As indicated in the chart below, total deposit levels at JPM remained stable despite this considerable idiosyncratic stress. From this, it is feasible to conclude that idiosyncratic events of this nature do not necessarily jeopardize deposit levels.

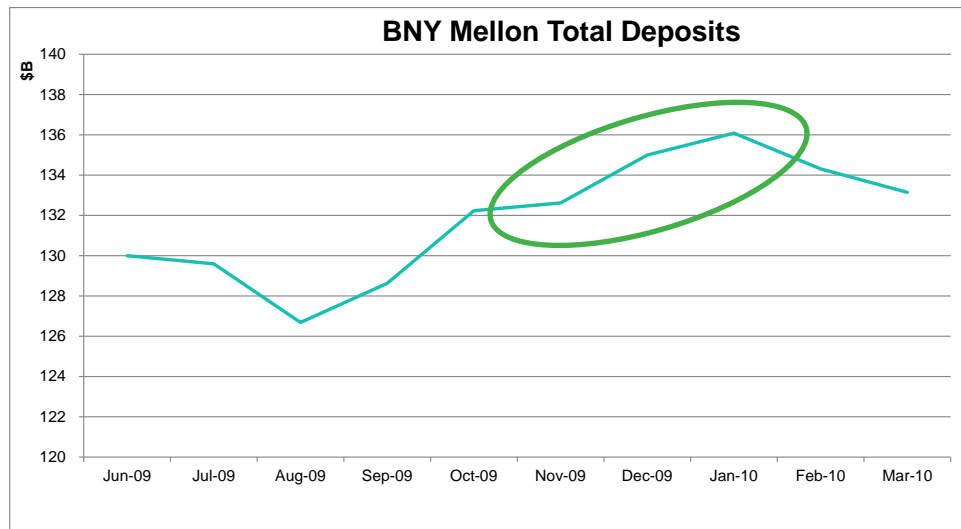
Ultimately, while modest run-offs could occur, BNY Mellon's analysis indicates that the firm's deposit balance has proven stable during periods of systemic stress.

### 3Q 2009 Securities Losses

In October 2009, BNY Mellon announced that it would incur a loss of \$2.5 billion. As a result, the bank's investment securities portfolio was restructured in order to reduce balance sheet risk.

This restructure resulted in a charge and recognition of losses on a significant portion of the portfolio.

Following the announcement, an examination of deposit behavior revealed there to be little impact to the trend of deposit balances. In fact, between October and December 2009, overall deposit totals increased by five percent.



### March 2012 Ratings Downgrade

In December 2011, Moody's Investors Service, Inc. (Moody's), placed BNY Mellon (the Institutional Bank) and BNY Mellon, N.A. (the Private Wealth Bank), on watch for a possible downgrade, citing several macroeconomic factors, including a low interest rate environment, greater capital markets volatility and heightened litigation risks<sup>3</sup>.

The negative news of a perceived downgrade contributed considerably to the resulting three-month decline. The graph on the following page shows total deposits declined from approximately \$210.0 billion to \$187.4 billion, or 10.8 percent, following the announcement in December.

Evidence of how strong and delayed an impact negative news can have on an organization is evidenced in the Office of Financial Research (OFR) Working Paper titled, "Does Unusual News Forecast Market Stress?"<sup>4</sup>

Subsequently, in March 2012, Moody's downgraded the long-term deposits of both institutions by one notch, from Aa2 to Aa3<sup>5</sup>. By the time the downgrade was officially announced, any clients who had wanted to leave were already gone. In other words, the downgrade itself did not cause any other clients to leave.

In fact, deposits began to rise immediately following the downgrade and continued to do so at a rapid rate during late May/early June 2012. When Moody's changed its ratings outlook again, from "negative" to "stable"<sup>6</sup> in June 2012, deposits had regained their December 2011 levels.

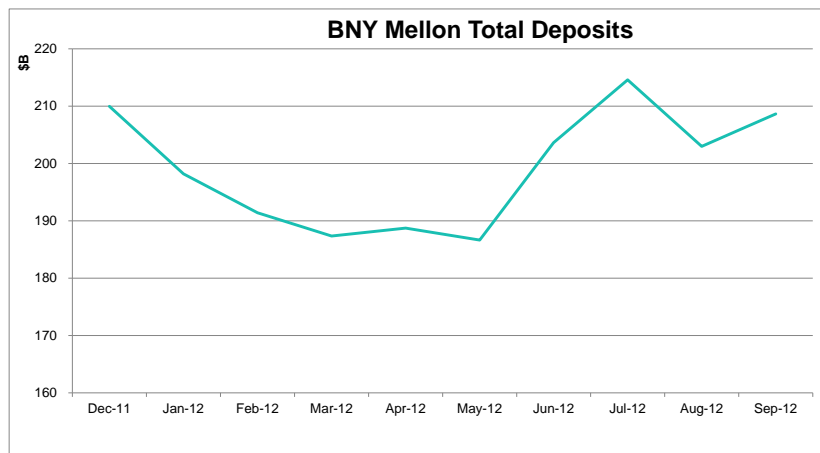
<sup>3</sup> "Moody's reviews BNY Mellon (SNR at Aa2) for Downgrade." [https://www.moodys.com/research/Moodys-reviews-BNY-Mellon-SNR-at-Aa2-for-Downgrade--PR\\_232944](https://www.moodys.com/research/Moodys-reviews-BNY-Mellon-SNR-at-Aa2-for-Downgrade--PR_232944) (December 9, 2011).

<sup>4</sup> "Does Unusual News Forecast Market Stress?" <https://financialresearch.gov/working-papers/> (August 23, 2016).

<sup>5</sup> "Moody's Downgrades BNY Mellon senior debt to Aa3 from Aa2." [https://www.moodys.com/research/Moodys-Downgrades-BNY-Mellon-senior-debt-to-Aa3-from-Aa2--PR\\_239295](https://www.moodys.com/research/Moodys-Downgrades-BNY-Mellon-senior-debt-to-Aa3-from-Aa2--PR_239295) (March 8, 2012).

<sup>6</sup> "Moody's affirms ratings of BNY Mellon, State Street and Wells Fargo but changes the outlook on their supported bank ratings to stable from negative."

This increase of deposits in March 2012 and June 2012 before and after the rating agency's outlook changes demonstrates that clients continued to place their funds with BNY Mellon. This result further reinforces how clients seek to utilize BNY Mellon as a haven for their funds, even in times of stress.



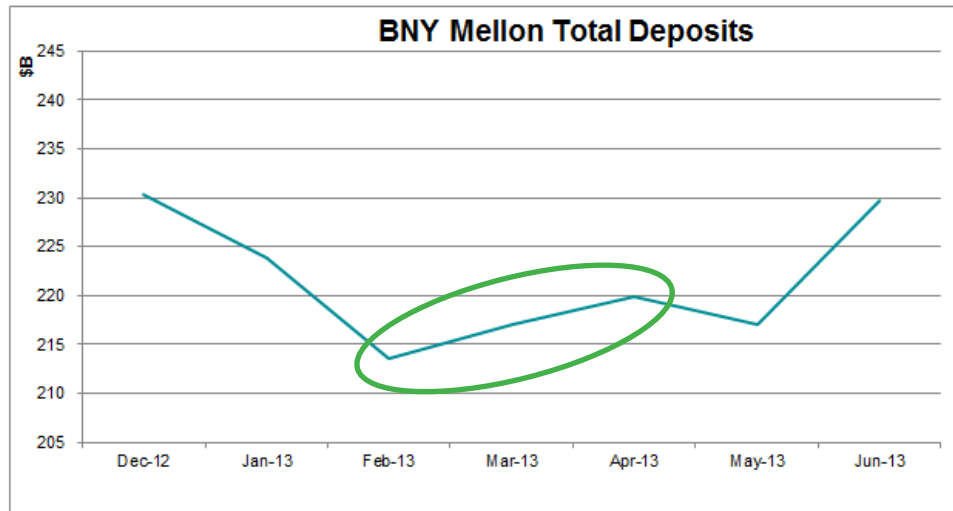
### February 2013 Tax Ruling

On February 11, 2013, BNY Mellon announced the release of a U.S. Tax Court ruling regarding the Internal Revenue Service's disallowance of certain foreign tax credits that BNY Mellon had claimed for the 2001 and 2002 tax years.

Because of the ruling, BNY Mellon incurred an after-tax charge of \$854 million, and recorded it in the first quarter of 2013. Monthly average total deposits decreased by 5% in February 2013 when compared with the prior month, however, the following month this figure increased by 2% (\$3.4 billion).

This event did not cause significant deposit run off and, in fact, happened concurrently with the debt-ceiling crisis of 2013.

During this debt ceiling crisis, as mentioned earlier, BNY Mellon took proactive measures to ensure we did not receive large amounts of deposits as under previous debt ceiling crises. By June 2013, deposit levels matched those of the previous year, showing again the benefits of proactivity to market conditions and the relative insensitivity of our deposits to idiosyncratic stress events.

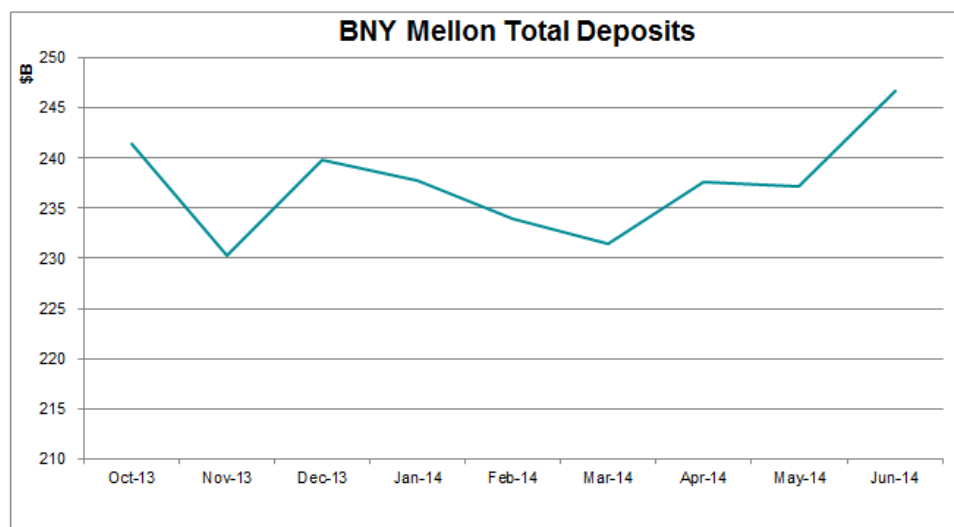


### November 2013 Ratings Downgrade

In November 2013, Standard and Poor's downgraded the long-term deposits of the Bank of New York Mellon (the Institutional bank) and BNY Mellon, N.A. (the Private Wealth bank) by one notch.

The downgrade also affected competitors in the domestic and international space (Morgan Stanley, Goldman Sachs Group Inc. and JPMorgan Chase & Co.).

As shown below, monthly average total deposit balances declined approximately 4.6% from \$241.4 billion to \$230.3 billion between October 2013 and November 2013. The following month, however, deposits returned to their previous levels and surpassed those within six months.



### August 2015 SunGard Technology Malfunction

On Saturday, August 22, 2015, SunGard conducted an operating system change for the US instance of InvestOne that supports BNY Mellon's mutual fund and exchange traded fund clients. During the process of applying this change to the SunGard production environment of the US instances of InvestOne, both the file system and backup system environments became corrupted.

As a result, these errors delayed and prevented BNY Mellon from automatically delivering system-generated net asset values (NAV) from August 24, 2015 to August 31, 2015. Manual NAV calculations were performed in the interim.

Once the system was restored on Tuesday, September 1, 2015, the integrity of the system was verified by fund accounting team by reviewing trial balances, holdings and other critical reports. Additional testing of balances and transactions and reconciliations were also performed once the system came back online.

Since the event, no data integrity issues have been identified and BNY Mellon did not lose any clients as result. Currently, the operating environment continues to be stable and performing at levels experienced prior to the event.

### Peer Analysis Following Idiosyncratic Events

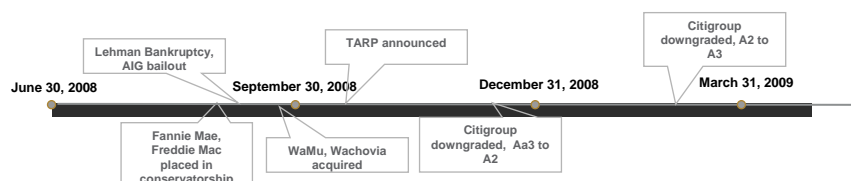
Citigroup's Transaction Services line of business and State Street Corporation's overall business model share similarities with BNY Mellon. Citigroup's Transaction Services products are similar and State Street's business model closely resembles BNY Mellon's model. As such, these entities are considered as peer institutions/lines of business of BNY Mellon for the time period analyzed.

Given the similarities in services and in operational nature of client relationships, the hypothesis is that similar deposit behaviors would result amongst the three institutions.

To that end, the effect of idiosyncratic events at these two institutions on their deposit levels were analyzed, since both Citigroup's Transaction Services line of business and State Street experienced ratings downgrades after the 2008 financial crisis.

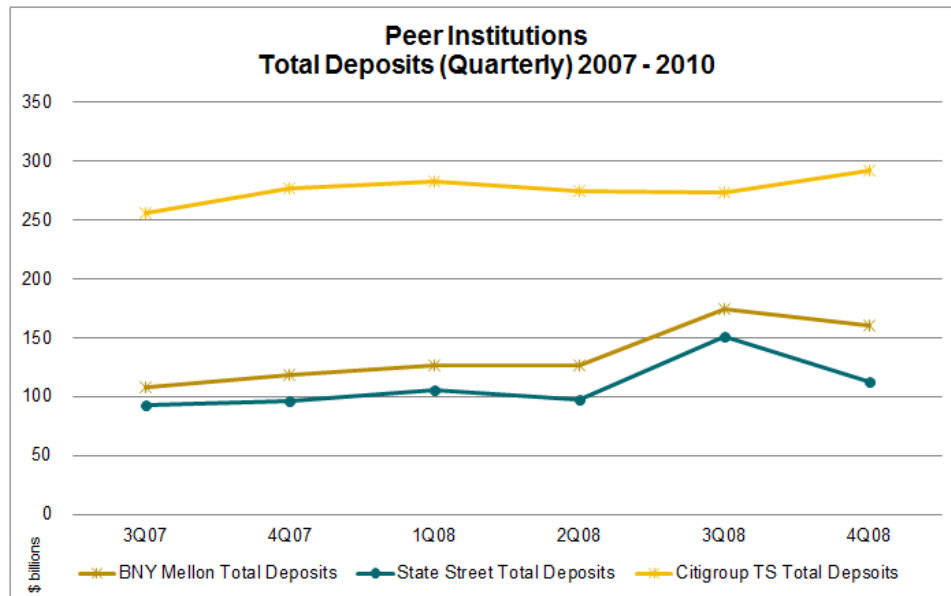
BNY Mellon expects that its deposit base will behave similarly to those at the peer institutions it analyzed; their credit rating downgrades led to measurable but not significant declines in deposit balances.

Below is a timeline that illustrates significant events for the analysis of BNY Mellon's peers:



During the financial crisis in the fall of 2008, all three institutions experienced an increase in deposit totals when compared with the previous year's totals (third quarter of 2007).

BNY Mellon deposits increased 48% from the third quarter of 2007 to the fourth quarter of 2008. State Street experienced a 20% increase in deposits and Citigroup's Transaction Services saw a 14% increase during the same time. This similar behavior underlines the tendency of the deposits in the peer group to behave in correlated fashion.



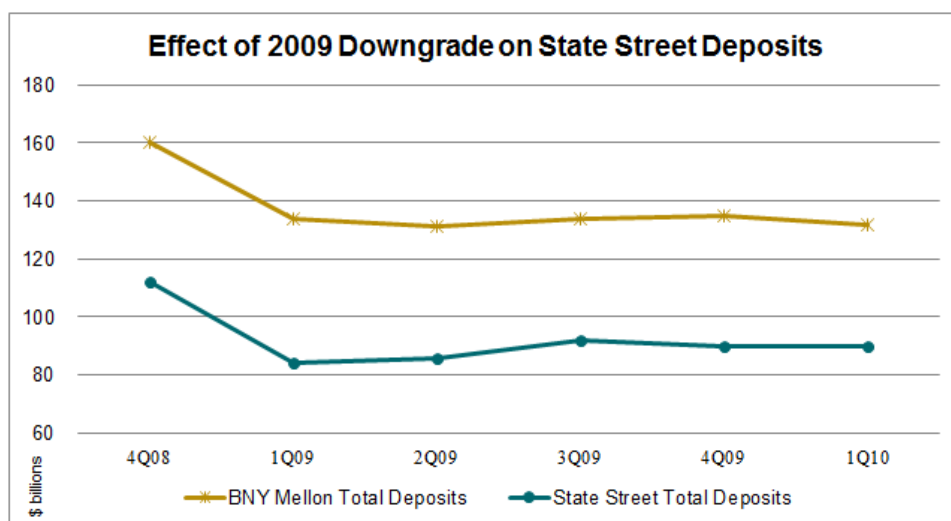
### State Street Downgrade

BNY Mellon compared State Street's deposit levels to those of BNY Mellon from the fourth quarter of 2008 through the next year.

State Street Corporation experienced a downgrade in January of 2009.

Following this downgrade, State Street did experience a small divergence in balance growth from that of BNY Mellon, but this trend quickly recovered in the following quarter as the deposits reverted to their former levels.

Despite this downgrade, the pattern of growth closely matches that of BNY Mellon. This illustrates that the bank would expect modest run-off to occur during some idiosyncratic events; those such as downgrades to the institution have a temporary and minor effect (8.9% decline) on deposit behavior and balance levels as a whole.



## Citigroup Downgrade

Deposit levels within Citigroup's Transaction Services (TS) division from 2008 through 2010 were examined as well. Citigroup experienced two downgrades during the financial crisis: the first in November of 2008 and the second in February of 2009.

The first downgrade happened in the fourth quarter, but Citigroup still finished the year with an increase in deposit balances.

The second downgrade had a small effect on deposits (a 4% decrease from the fourth quarter of 2008 to the first quarter of 2009), but the deposit levels at the end of the second quarter 2009 were still above those of the same time in 2008—prior to the financial crisis.

From this analysis, an idiosyncratic event such as multiple downgrades within two quarters will have a modest effect on deposit levels, BNY Mellon balances should not deteriorate, even if the stock price drops considerably as did Citigroup's stock price from the third quarter of 2008 to the first quarter of 2009.



## APPENDIX

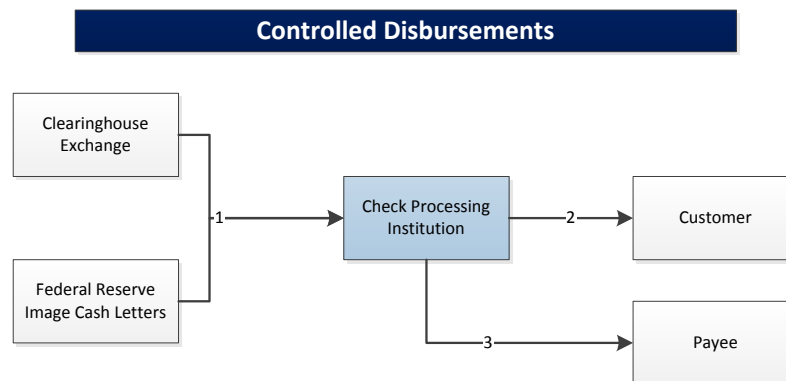
### Service Types

#### *Accounts Payable Services (including Controlled Disbursement)*

Controlled disbursement is used to regulate the flow of checks through the banking system on a daily basis, usually by mandating once-daily distributions of checks. Controlled disbursement is generally employed to maximize an institution's cash available for investment or debt payments, or avoid any costly overdrafts resulting from inaccurate funding estimates.

BNY Mellon's controlled disbursement service notifies corporate cash managers by 9:45 a.m. Eastern Standard Time (exceptions aside), of the total dollar amount of checks that will be charged to an institution's account on a daily basis. This service eliminates the need to maintain idle, non-interest-bearing balances. This allows for uninvested funds to be invested in the money market for as long as possible, therefore improving a cash manager's ability to forecast cash needs.

The following diagram represents the process flow of a typical controlled disbursement transaction. BNY Mellon acts as a check processing institution to controlled disbursement transactions.



#### **Steps:**

- 1: Disbursing institution receives image and magnetic ink character recognition (MICR) data files, captures information, and sorts checks by account
- 2: Customer receives funding totals and MICR details by a specified time (generally early in the morning)
- 3: Check processing institution processes payments and makes remittances to client's payees

#### *ACH Special Receipts*

ACH Special Receipts service is designed to allow clients to receive timely and comprehensive payment reference information. Clients can then apply funds to their sub-accounting system quickly and accurately.

#### *Automatic Investment Service*

The client targets a threshold balance for one or multiple accounts, selects investment vehicles based on preferences, and selects sweep times. Based on the available balance in an account, it automatically invests some or all of that balance in an investment instrument. Depending on the cash balance of accounts at the designated sweep time, Treasury Services will automatically adjust funds to meet the specified target balance.

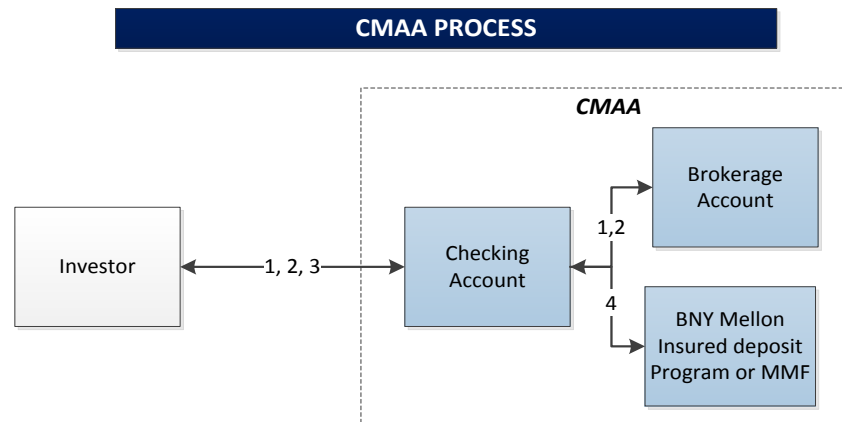
### Bankruptcy Trustee Servicing

This offering provides record keeping services for Chapter 7 bankruptcy Trustees.

The core services include; record keeping, transaction processing, monthly statements, tax reporting, US Trustee reporting and KYC, CIP, OFAC and AML fraud screening.

### CMAA Process

The following diagram depicts the process flow of an ordinary CMAA. Funds in excess of the withdrawals made by a client will be swept daily into a predetermined sweep vehicle.



#### Steps:

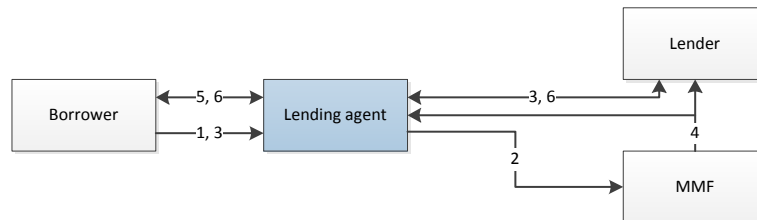
- 1&2: Client invests in investment vehicles per self-directed brokerage account and receives returns.
- 3: Client makes withdrawals from short-term cash balances.
- 4: Funds in excess of withdrawals are invested in a sweep vehicle daily.

### Collateral

Clients for whom BNY Mellon acts as a collateral agent, such as **derivative exchange-traded** fund clients and Asset Managers, hold cash for margin call purposes. Cash collateral accounts at BNY Mellon are held in omnibus accounts in the IMMS system. These monies are invested in money market funds, commingled funds, repos, fixed income assets, among others.

This overall process flow of the securities lending process where collateral is provided in cash is depicted in the following illustration:

### LENDING AGENT – CASH COLLATERAL (US mainly)



#### Steps:

At initiation of the loan:

- 1: Borrower send cash collateral to custodian bank
- 2: Custodian bank reinvests cash for the term of the loan

Throughout the life of the loan:

- 3: Borrower send any corporate action / income payments to lender through "manufactured payments"
- 4: Custodian bank and lender split the excess income determined as:  $\text{Excess income} = \text{Income earned from reinvestment} - \text{rebate rate}$
- 5: Borrower receives a negotiated rate of return (rebate rate) on the collateral

At the term:

- 6: Cash collateral returned to borrower and securities loaned returned to lender.

### *Collections Service*

BNY Mellon provides an outward collections service, which is a solution for initiating and tracking collections globally. BNY Mellon acts as the collecting bank on behalf of the seller and tracks payments from the buyer. Proceeds from the buyer will then be held in the correspondent bank's account within BNY Mellon.

### *Compensating Balances*

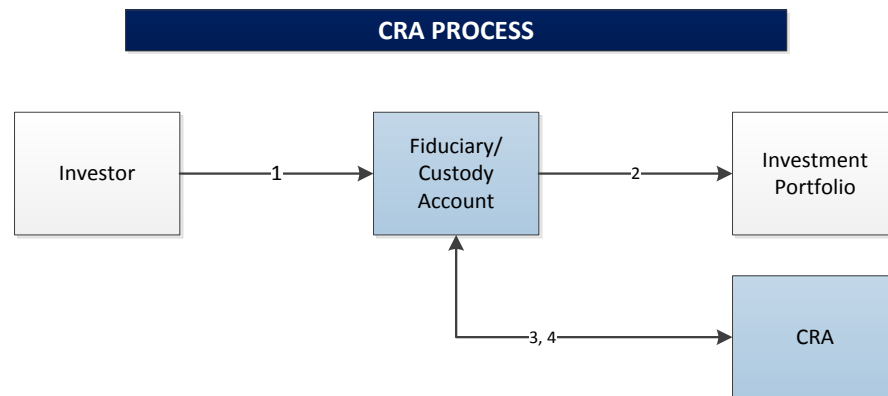
Traditionally, some clients chose to maintain cash on deposit in order to receive earnings credit application to service charges. This practice has fallen out of use in recent years due to the impact of low earnings credit rates and account fees.

### *Consumer Electronic Receivables (CER)*

A part of BNY Mellon's comprehensive e-commerce portfolio, CER is an innovative cash management solution that enables clients to eliminate costly exception items by receiving consumer payments electronically from the consumer service providers (CSPs).

### *CRA Process*

The following diagram depicts the process flow of an ordinary CRA. Cash balances in excess of what is required to make payments (one to two percent of the investment portfolio) are swept from a fiduciary/custody account into a CRA.

**Steps:**

- 1: Investor places monies in fiduciary or custody account at BNY Mellon for investment purposes.
2. Balances in fiduciary or custody account are invested.
- 3&4: Uninvested balances in excess of 1-2% of the client's investment portfolio are swept into a CRA daily. The swept balances are returned to the fiduciary or custody account on the subsequent day and are invested if possible.

*Data Exchange*

The data exchange service gives the client's concentration bank the ability to exchange corporate information with multiple domestic banks, international banks, and third party data exchange vendors.

The client is then provided with a central source for obtaining current day and prior day account balance information from multiple banks, permitting the client to automate and simplify the task of receiving account balance information from an array of institutions.

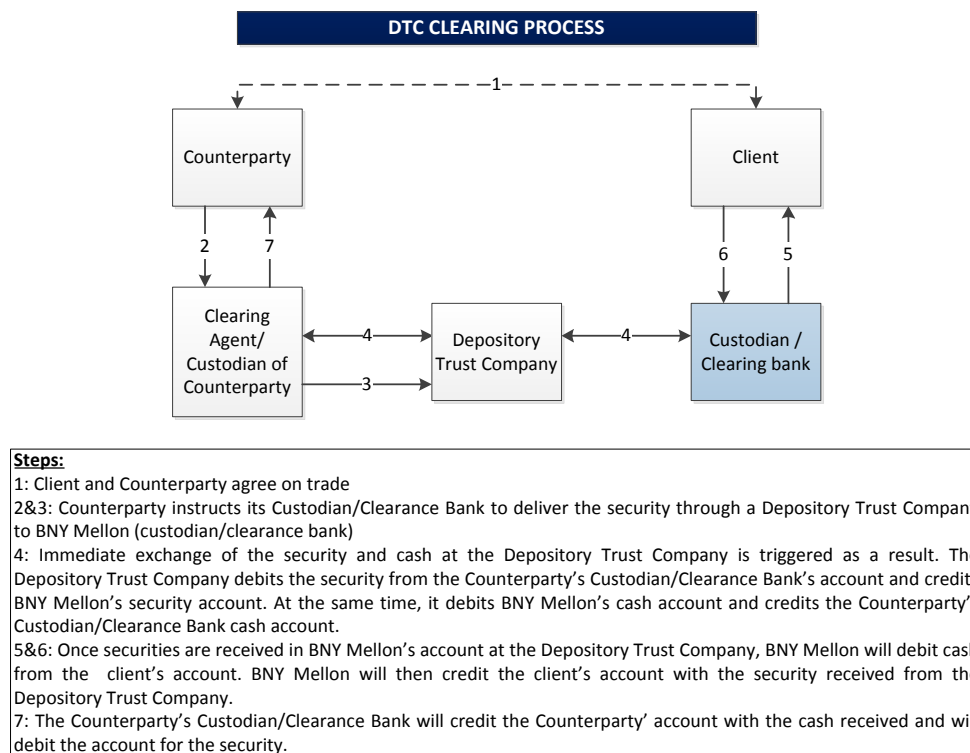
*Data Translation Services*

Data Translation Services (EDI) includes a comprehensive disbursements solution that transforms a single, standards-based file containing the payment and remittance information for particular payment types into payment formats required by vendors (i.e., paper-based, EDI-capable or web-enabled). Subsequently, vendors are paid and given receipt of remittance with details according to client specifications.

Receipt and payment of funds to a BNY Mellon DDA account structure is an integrated component of the EDI solution.

*DTC Clearing Services*

The figure below depicts the process flow of an ordinary DTC clearing transaction and the participating parties:



### *Electronic Receivables Payment Service*

The Electronic Bill Presentment and Payment Service (EBPP) is a process that enables BNY Mellon clients to send electronic bills and invoices to their customers, be paid through secure digital channels (i.e., over the web via ACH or credit/debit card) and can also update a client's accounts receivable billing system in real time.

The client retains complete control of bill payment presentation and branding online, while BNY Mellon notifies the client's customers of the bill and manages the secure payment process.

Receipt of client funds to a BNY Mellon DDA account structure is an integrated component of the EBPP solution. As such, EBPP is correlated to deposit generation.

### *Escrow Agent Transition Process Example*

The following example is provided for illustrative purposes only and the actual mechanics (including timing) may differ from deal to deal.

#### Step 1 – Decision

The decision to appoint a successor escrow agent can be driven by external parties (i.e., by the depositors), or internally by the resignation of the escrow agent.

- Decision made externally: The depositors may remove the escrow agent at any time by providing the Escrow Agent with 20 business days' prior notice in writing signed by the depositors.
- Decision made internally: The escrow agent may resign at any time by providing to the depositors 10 business days prior written notice thereof.

*Step 2 – Operational Mechanics*

Once the decision has been made, the question arises as to what happens to the Escrow property.

- Within 10 business days after giving notice of removal to the escrow agent or receiving notice of resignation from the escrow agent, all depositors shall jointly agree on and appoint a successor escrow agent.
- If a successor escrow agent has not been identified by the end of the specified (10) business day period, the escrow agent may, in its sole discretion, deliver the escrow property to any of the depositors or may apply to a court of competent jurisdiction for the appointment of a successor escrow agent or for other appropriate relief.

Note: It is reasonable to assume that the costs and expenses (including reasonable attorneys' fees and expenses) incurred by the escrow agent in connection with such a proceeding shall be paid by, and be deemed a joint and several obligation of, the depositors.

- Upon receipt of the identity of the successor escrow agent, the escrow agent shall either: (1) deliver the escrow property to the successor escrow agent, less the escrow agent's fees, costs and expenses or other obligations owed to the escrow agent; or (2) hold the escrow property (or any portion of the escrow property), pending distribution, until all such fees, costs and expenses or other obligations are paid.

*Step 3 – Exit*

Upon delivery of the escrow property to the successor escrow agent, the escrow agent shall have no further duties, liabilities, responsibilities or obligations under the agreement.

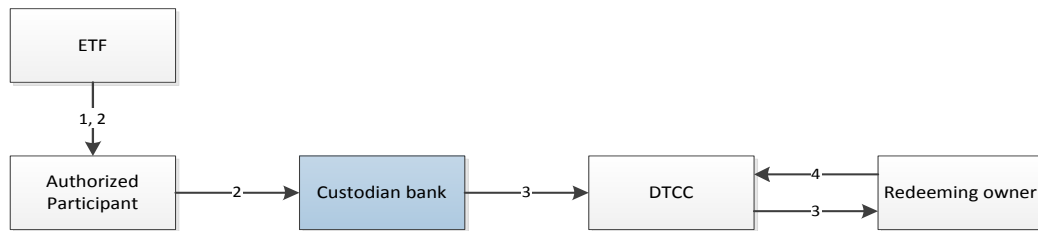
*Expenses*

BNY Mellon's Asset Servicing clients may also maintain liquidity to fund ongoing expenses, such as custody fees, associated with their custody activities.

*Exchange Traded Funds Services*

The following diagram depicts the overall process flow of an ETF redemption process and the participating parties:

### REDEMPTION PROCESS ETFs

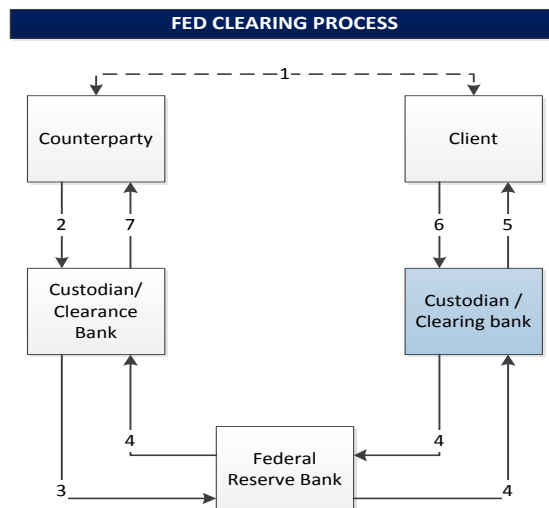


#### Steps:

1. ETF sends request for redemption of creation units
2. ETF portfolio value is calculated at close of trading and ETF shares are delivered to the custodian
3. Custodian transfers portfolio of securities identical in weighting and composition to the index and cash to redeeming owner through DTCC. Cash components: accrued dividends, interest on dividends, capital gains (minus losses not previously reinvested since last distribution), custody and transfer charges.
4. Redeeming owner pays redemption fees.

### Fed Clearing Process

The following diagram depicts the process flow of an ordinary Fed clearing transaction and the participating parties:



#### Steps:

- 1: Client and Counterparty agree on trade
- 2&3: Counterparty instructs its Custodian/Clearance Bank to deliver the security through the Federal Reserve Bank (FRB) to BNY Mellon (custodian/clearance bank)
- 4: Immediate exchange of the security and cash at the FRB is triggered as a result. The FRB debits the security from the Counterparty's Custodian/Clearance Bank's account and credits BNY Mellon's security account. At the same time, it debits BNY Mellon's cash account and credits the Counterparty's Custodian/Clearance Bank cash account.
- 5&6: Once securities are received in BNY Mellon's account at the FRB, BNY Mellon will debit cash from the client's account. BNY Mellon will then credit the client's account with the security received from the FRB.
- 7: The Counterparty's Custodian/Clearance Bank will credit the Counterparty's account with the cash received and will debit the account for the security.

### Foreign Check Collection

Foreign check collection is the process of submitting a USD or foreign check to either the domestic paying bank (for USD items) or to foreign correspondent banks (for foreign currency checks) for payment.

BNY Mellon offers services to facilitate the foreign collection needs of clients. In addition to processing foreign currency checks on a collection basis, Treasury Services also accepts foreign currency checks on a “**Buy-in**” basis for immediate credit.

#### *Foreign Currency Payments and Receipts*

BNY Mellon offers foreign currency accounts with wire payments and receipts and/or foreign draft payments through BNY Mellon’s New York branch as part of global payment services.

#### *FX Payments/iDeal Forex*

BNY Mellon offers cross-currency payments or receipts in which the currency of the debit/credit account differs from the transaction currency. In some regions, accounts which are enabled to transact across currencies (FX) are called Multicurrency Accounts.

Examples include:

- Euro payment made from a USD account
- JPY receipt paid to a EUR account

Clients can transact cross currency payments via NY, London, and Frankfurt based accounts using Treasury Edge, EDI, and SWIFT.

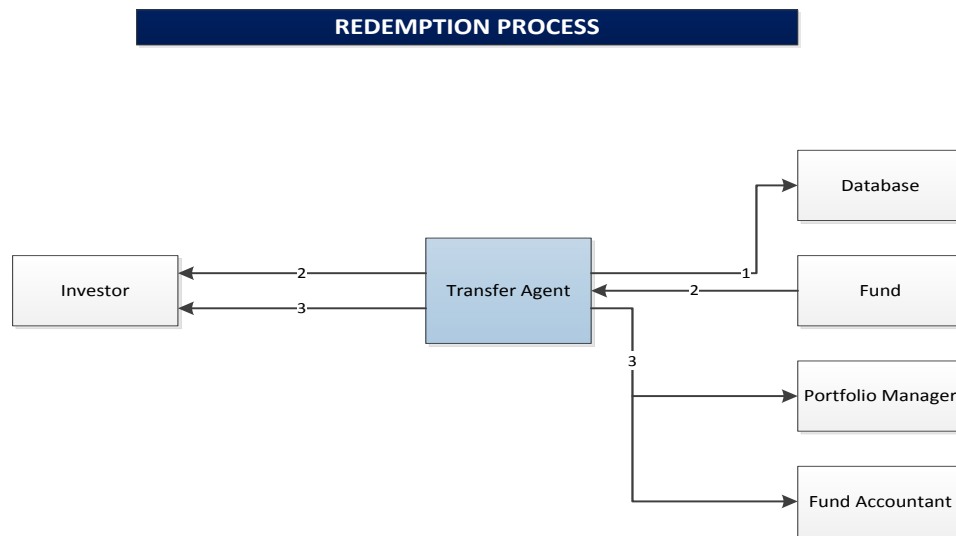
Clients also have access to iDeal Forex. This web-based application combines the electronic payment processing capabilities of BNY Mellon Treasury Services with the FX trading capabilities of BNY Mellon Global Markets to deliver a fully integrated solution for clients making cross-border payments. Clients can make payments via wire transfer or drafts and the application can be used to transact from accounts held in NY or in other geographic regions such as London or Frankfurt.

#### *Gate Provision*

Hedge funds may limit, by means of a “gate,” the amount of withdrawals on a specific redemption date. Gate provisions can range from 5% to 15% of either the fund’s net assets or client’s invested assets, and are imposed to slow redemption outflows in times of severe market stress.

The following diagram depicts the overall flow of a redemption process where BNY Mellon acts as the transfer agent. The subscription process reflects a similar process flow, however, BNY Mellon as transfer agent collects investor funds and deposits them with the investment fund.



**Steps:**

1. Transfer agent closes account and records the number of fund shares redeemed.
2. Transfer agent collects payment for share redemption from fund and deposits the payment into the investor's account.
3. Transfer agent sends confirmation to the investor, fund accountant, and portfolio manager of redemption payment.

*iACH*

This service offers the distribution of global, low value transactions using channel clearing partners for delivery through the local in country ACH system. It is exclusively offered through Global Mass Payments.

*International Cash Letter*

International cash letter services include processing checks drawn on foreign banks and/or those checks that are denominated in foreign currencies. Treasury Services will clear these checks and deposit the monies into a deposit account.

*Late Night Investment Service (LNI)*

This service automatically sweeps uninvested balances into a reserve-free (investment vehicle (BNY Mellon's International Banking Facility (IBF) or Cayman Island Branch, also called LNI) at the close of business each day. Principal and interest earned are returned to clients' DDAs in the early morning of the next business day.

*Lockup Period*

A lockup is the time period during which an initial investment cannot be redeemed from the fund. Once the lockup period has concluded, investors can redeem their shares during defined periods.

Lockups are most commonly enforced for one year. During this period, investors can receive a portion of their investment in the form of distributions, but are restricted from receiving the remaining principal (unless redeemed at a discount or on the secondary market).

*Masterfile Payment System*

ACH transactions are one of the fundamental clearing and cash management function within Accounts Payable. To enable a repeatable and standardized process, the Masterfile Payment System (MPS) at BNY Mellon allows clients to set up and create repetitive ACH transactions.

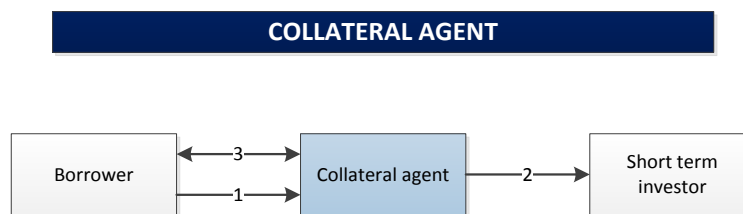
To facilitate repetition, BNY Mellon maintains a masterfile of bank transit routing and account numbers for client specified transactions, and will utilize the information automatically each time.

Typically, BNY Mellon's client would establish a DDA account structure to fund ACH disbursements. However, clients would not need to maintain cash in disbursement accounts.

### *Margin Direct Services*

When engaged to act as an independent third party collateral agent to initial margin posted for securities lending transaction, BNY Mellon acts a safe keeper of the posted collateral.

The diagram below depicts the overall process flow of a securities lending process where BNY Mellon acts as the collateral agent:



#### **Steps:**

- 1: Borrower sends collateral to custodian bank
- 2: Custodian bank invests collateral

Throughout the life of the loan, on a daily basis:

3. Custodian bank computes daily MtM of collateral:
- If MtM collateral > required margin, excess collateral is returned to borrower  
 If MtM collateral < required margin, borrower provides more collateral

### *Private Label*

BNY Mellon's Treasury Services outsources treasury management solutions (e.g., lockbox services, disbursement services, data exchange, multicurrency payments, etc.) to other financial institutions so that the clients can expand or enhance their current product and service offerings to their business clients. These products and services are sold on a wholesale-basis to clients, who, in turn, sell these offerings to their corporate clients. BNY Mellon remains a silent partner, as much as possible, and this information is disclosed to the end user at the client's discretion. Private Label clients are generally smaller, regional banking institutions that utilize BNY Mellon's operational capabilities to expand their business.

Private Label banks ordinarily do not hold deposits at BNY Mellon. As it relates to Private Label lockbox services, the customer bank either receives an Image Exchange file for deposit, in which no deposit is made at BNY Mellon, or lockbox payments are deposited at BNY Mellon. In this case, the available balances are transferred via wire to the Private Label bank at the close of each business day.

### *Redemption Frequency*

The periods investors are permitted to withdraw funds are controlled by the redemption frequency.

For instance, if the redemption frequency is three months, an investor can only withdraw funds every three months following the lockup period. Redemption frequencies can range from daily to annually.

However, not all hedge fund managers impose redemption frequency restrictions. BNY Mellon clients normally maintain subscription/redemption accounts to support the aforementioned activities.

### *Redemption Notice*

A redemption notice is a notification that investors must provide to funds prior to redeeming shares.

The redemption notice is required to be given to the fund at stated period of time preceding the actual redemption (i.e., 30 days to one year). The most common notice periods are 30, 45, and 60 days. Certain hedge funds do not impose a minimum redemption notice period.

### *Reinvestment Cycle Time*

Cash balances on deposit may rise during the lapsed time between the receipt of cash from subscription activity, securities sales, and corporate actions to be reinvested into new positions. One of the main reasons for this occurrence is the period of time required for funds to identify and execute trades meeting target risk and return objectives.

Reinvestment may also be delayed due to inability to secure collateral for repurchase agreements, which may occur at peak market liquidity points (e.g., month-end). However, since deposits offer minimal returns, investment managers seek to minimize this cycle time and reinvest uninvested liquidity in higher return securities as soon as practical.

The length of this type of delay will vary significantly. For example, money market and fixed income index funds can reinvest proceeds almost immediately upon receipt, with the exception of certain peak market liquidity days. Conversely, investment funds with specialized strategies (e.g., secondary loan portfolios) may experience a significant reinvestment period (i.e., weeks to months).

### *Retail Lockbox*

Retail Lockbox uses a pre-printed, machine-readable remittance document, and processes payments via straight-through-processing (STP). When STP cannot process the payments, BNY Mellon processes them manually.

Client payments are directed to designated Post Office boxes for the selected BNY Mellon Lockbox sites. BNY Mellon then retrieves the mail and processes the items according to the client's specifications. The checks are deposited to the client's designated account through BNY Mellon's Image Cash Letter service.

### *Reimbursement Claims Service*

BNY Mellon provides reimbursement claims services to buyers. BNY Mellon will claim a reimbursement at another bank as opposed to the buyer's bank. The other banking institution wires payment to BNY Mellon, which in turn sends payment to the seller's bank.

### *Remote Check Deposit*

Remote check deposit enables clients to scan and truncate check deposits remotely and transmit electronic check images and related deposit information to BNY Mellon where substitute checks are printed and processed either through wholesale lockbox or directly through deposit processing.

### *Retained Assets*

BNY Mellon is a notional record keeper for the retained assets customers.

While it processes the financial transactions of the subaccounts, the clients retain the funds and BNY Mellon settles daily with the insurance clients. The initial subaccount is established via a file transmission

from the insurance customer with the amounts to be established for each subaccount. BNY Mellon then posts this initial transaction as a book entry for each subaccount.

As the subaccounts write checks or transition funds via ACH to external bank accounts, BNY Mellon settles daily with the insurance client until the funds in the subaccounts have been exhausted. Therefore, no balance remains in the settlement account at the end of the day.

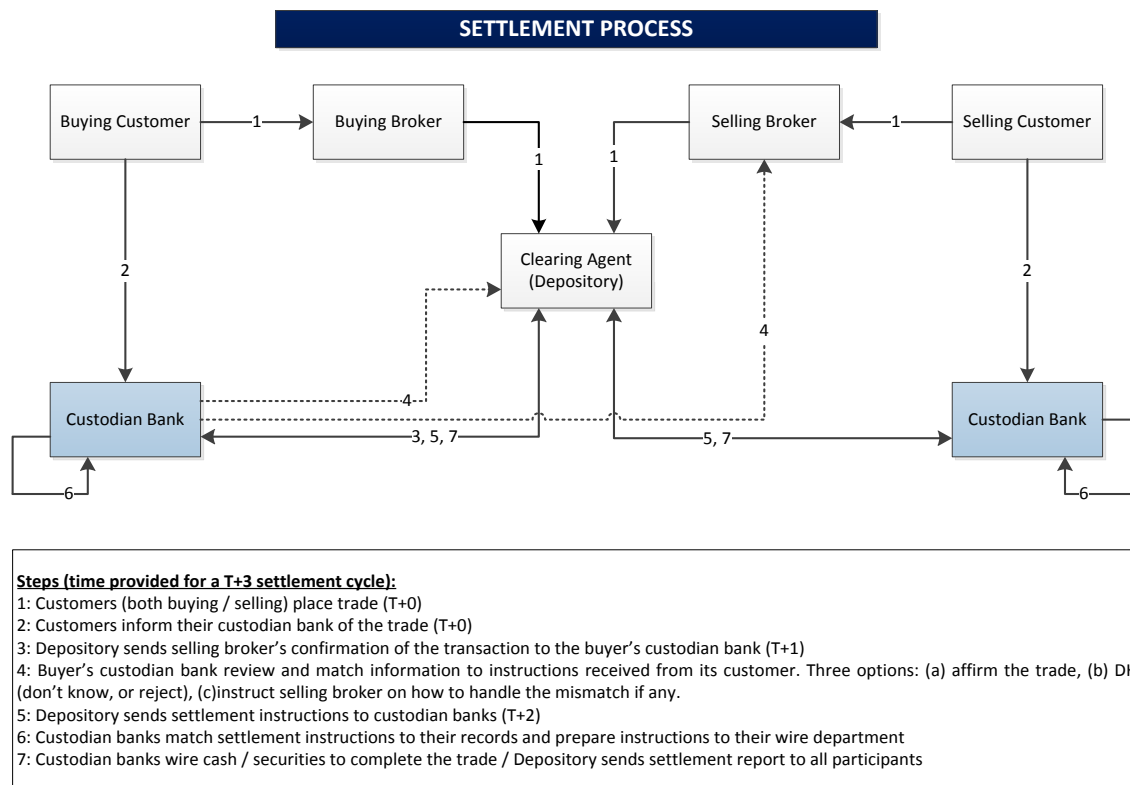
### *Risk Mitigation Services*

BNY Mellon may provide risk mitigation services to the seller's bank if the seller's bank should require additional assurance as it relates to the buyer's bank's ability to complete the transaction. BNY Mellon request that the buyer's bank pledge cash collateral with BNY Mellon. The cash collateral is held by BNY Mellon until the trade has settled.

### *Securities Settlement Services*

Heightened control and efficiency over processing is necessary due to the high volumes and values of securities transactions. The exchange of cash and securities is carried out in electronic form. The T+3 settlement is the legal maximum timeframe as mandated by the SEC. Operationally it is believed to be possible to shorten the settlement cycle to T+2. The transition from T+3 to T+2 will be, however, complex<sup>7</sup>

The following diagram depicts the overall process flow of a security settlement process and the participating parties. BNY Mellon is highlighted in blue. As a custodian bank, either for the buying customer or selling customer, BNY Mellon is in charge of transferring the cash and securities from the buyer to the seller and vice versa.



<sup>7</sup> "Shortened Settlement Cycle Resource Center."

<http://www.sifma.org/issues/operations-and-technology/shortened-settlement-cycle/overview/> (September 19, 2016).

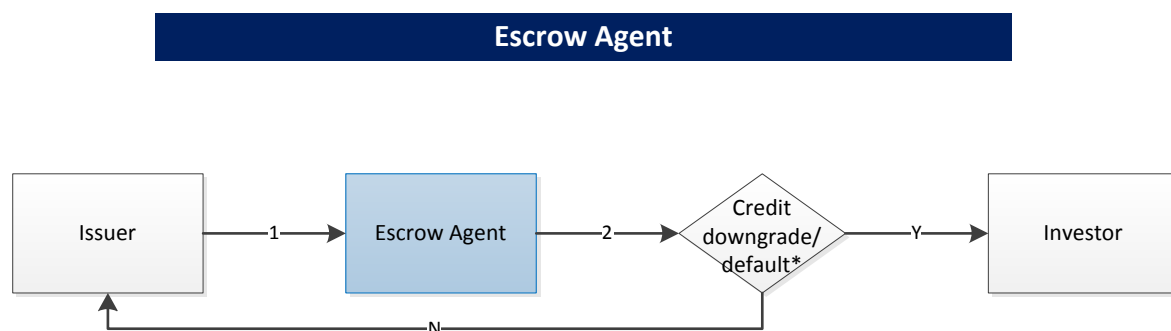
There are several requirements in place necessitating that deposits be held. These include:

- Redemption Requirements,
- Reinvestment Cycle Time,
- Expenses,
- Collateral, and
- Compensating Benefits

### *Specialty and Public Finance – Escrow Agent*

BNY Mellon acts in an escrow agent capacity only.

The following diagram depicts a process flow of an escrow agreement under a credit downgrade / default (trigger event) scenario.



#### **Steps:**

1. Cash / assets sent to agent in the event the issuer should experience a credit rating downgrade or default
2. If the issuer experiences a credit downgrade / default, escrow agent remits cash / assets in escrow to investor. If not, the cash / assets is returned to the issuer.

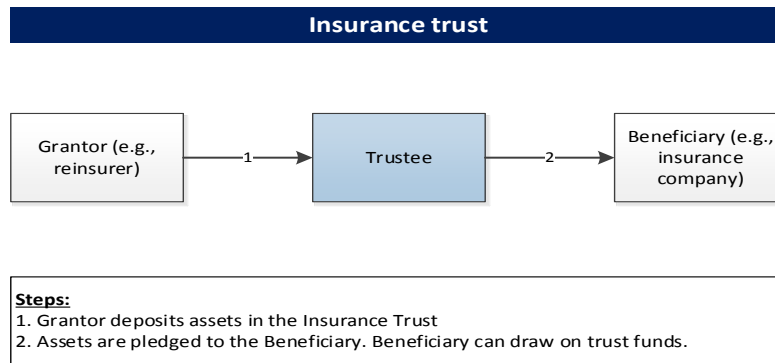
**\* The credit downgrade / default is an illustrative example of a trigger event in an escrow situation**

### *Specialty and Public Finance – Insurance Trust*

BNY Mellon clients utilize the insurance trust as an alternative to letters of credit and surety bonds for their insurance collateral obligations. BNY Mellon meets the fiduciary responsibilities of an insurance trustee and administers trust according to the terms of the trust agreement.

Off-shore clients tend to be attracted to this product for tax advantage purposes.

The following diagram depicts the overall process flow of an insurance trust transaction.



## SWIFT

BNY Mellon is a registered SWIFT Corporate Access Service Provider through both the Member Administered Closed User Group (MACUG) and the Standard Corporate Environment (SCORE).

BNY Mellon accepts SWIFT messages either as individual messages via InterAct Store & Forward or file transmission through FileAct.

In addition, BNY Mellon supports SWIFTNet Exceptions and Investigations.

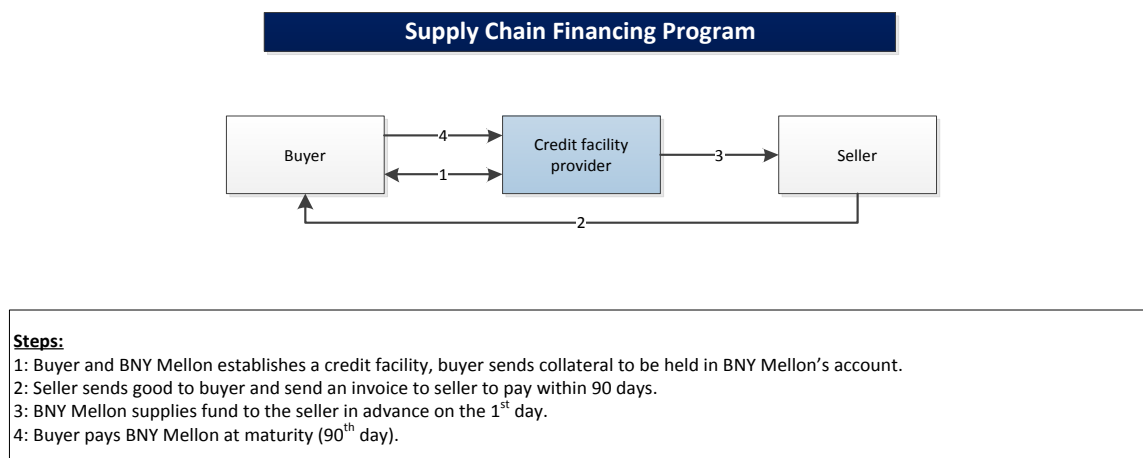
BNY Mellon provides this access to our clients so that may exchange automated, standardized financial information securely and reliably, as well as work together collaboratively with the financial community to shape market practice, define standards and debate issues of mutual interest.

## Trade Service Finance (Corporates)

In a standard **trade service finance** transaction between corporates, the buyer has 90 days to send payment for the goods received from the seller. In the interim period, the seller may be in need of liquidity.

To meet the liquidity needs of clients, BNY Mellon offers a supply chain financing program to buyers and a reverse factoring or receivable services to sellers. These credit facilities are offered to corporate clients to support trade transactions.

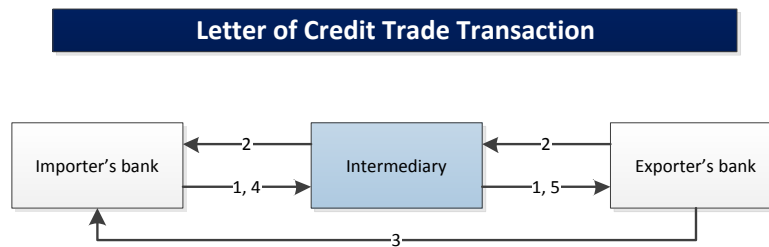
The following diagram represents the process flow of a supply chain financing program. BNY Mellon acts as a credit facility provider to the buyer.



### Trade Service Finance (Financial Institutions)

BNY Mellon acts as an intermediary between the buyer's bank and the seller's bank to facilitate a trade service finance transaction. BNY Mellon performs services including, letter of credit advisement, confirmation, document examination, and payment settlement. BNY Mellon provides additional services to a trade transaction, which are described in the subsequent section.

The following diagram represents the process flow of a trade transaction. BNY Mellon acts as either the buyer's or seller's correspondent bank.



#### **Example:**

Buyer: Importer

Seller: Exporter

BNY Mellon acts as the intermediary.

#### **Steps:**

1: Importer bank issues LC to BNY Mellon, which sweeps LC to exporter bank.

2: Exporter bank sends trade and shipping documents to BNY Mellon, which in turn sends to importer bank.

3: Exporter bank sends widget to importer bank.

4: Importer bank funds its account maintained with BNY Mellon to pay for beneficiary payment.

5: BNY Mellon sends payment to exporter bank.

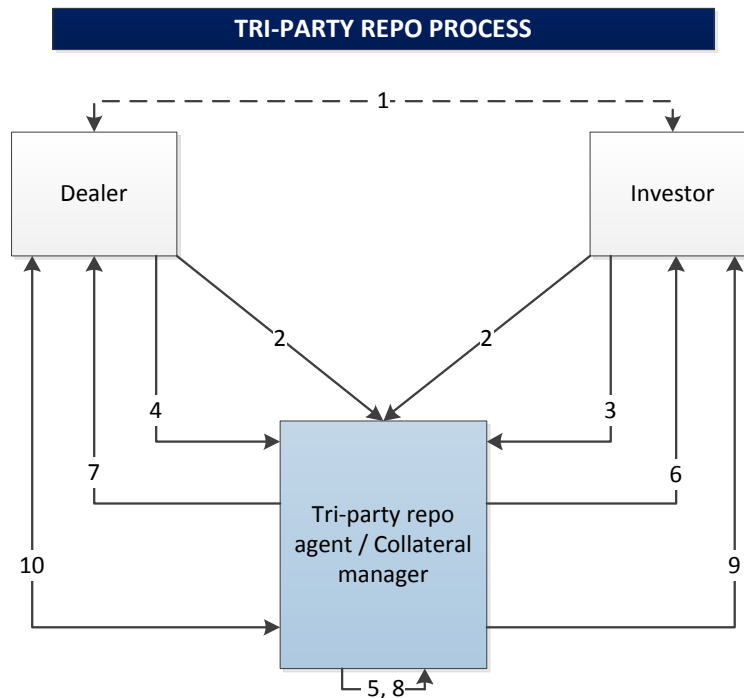
### Transfer Agency Services

BNY Mellon acts as a transfer agent to subscriptions and redemptions where it, ordinarily, collects proceeds from redeemed shares and deposits the monies into an investor's account. Conversely, BNY Mellon facilitates the subscription process by collecting funds provided by the subscriber and deposits moneys in the investment fund.

Alternative funds may have different share redemption policies, based on fund type. However, a redemption policy generally includes the following provisions, which restrict investors from redeeming shares.

### Tri-Party Repo Process

The following diagram depicts the process flow of an ordinary tri-party repo transaction and the participating parties:

**Steps:**

- 1: Dealer and investor agree on tri-party repo trade
- 2: Parties advise BNY Mellon (Tri-Party Repo Agent/Collateral Manager) of the trade
- 3 & 4: The investor sends the cash to BNY Mellon and the dealer sends the securities to BNY Mellon
- 5, 6 & 7: BNY Mellon lock up the collateral, sends the cash to the dealer and hold the securities in the investor's account
- 8, 9 & 10: BNY Mellon unwinds collateral (maturing of the trade), returns principal and interest to the investor, returns securities to the dealer, and debits cash principal and interest from the dealer.

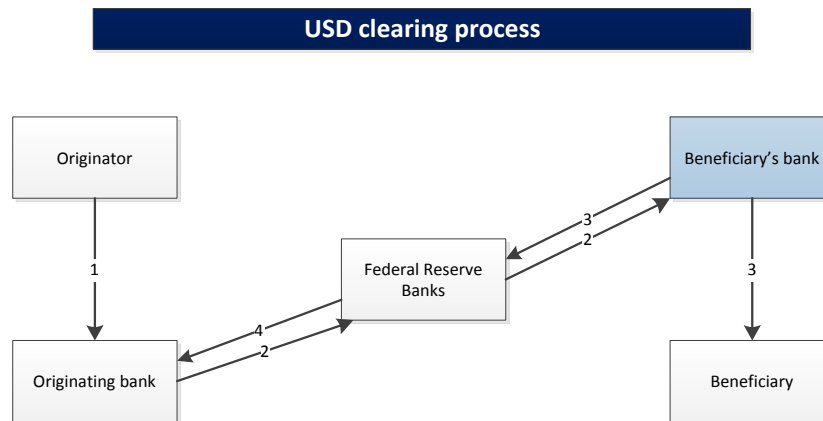
*USD Clearing*

BNY Mellon, acting as a USD clearing bank, will convert the currency and remit the money to another banking institution and instructs this institution to pay the client's counterparty.

Depending on the size of an entity, clients may have multiple USD clearers. BNY Mellon is a direct member of both CHIPS (the largest private-sector U.S. dollar funds transfer system in the world) and Fedwire (a real-time, gross settlement funds transfer system operated by the U.S. Federal Reserve Banks). As a result, clients are fully equipped to send high-value, urgent payments.

The follow diagram represents the process flow of a U.S. dollar clearing transaction. BNY Mellon acts as either the beneficiary's or originator's bank.





**Steps (example when BNY Mellon acts as the beneficiary's bank):**

- 1: The originator places the payment order with the originating bank.
- 2: The originating bank sends payment in U.S. dollar to the Federal Reserve Bank which in turn sends payment to the beneficiary's bank.
- 3: The beneficiary's bank sends advice to the beneficiary and the Federal Reserve Bank.
- 4: The Federal Reserve Bank sends acknowledgment to the originating bank.

USD Clearing offerings associated with Treasury Services include:

- ACH Special Receipts (ancillary service)
- Consumer Electronic Receivables (CER)
- Foreign Currency Payments and Receipts
- FX Payments/Ideal Forex
- iACH
- US Dollar ACH
- USD Funds Transfer
- World Wire Express

### *USD ACH*

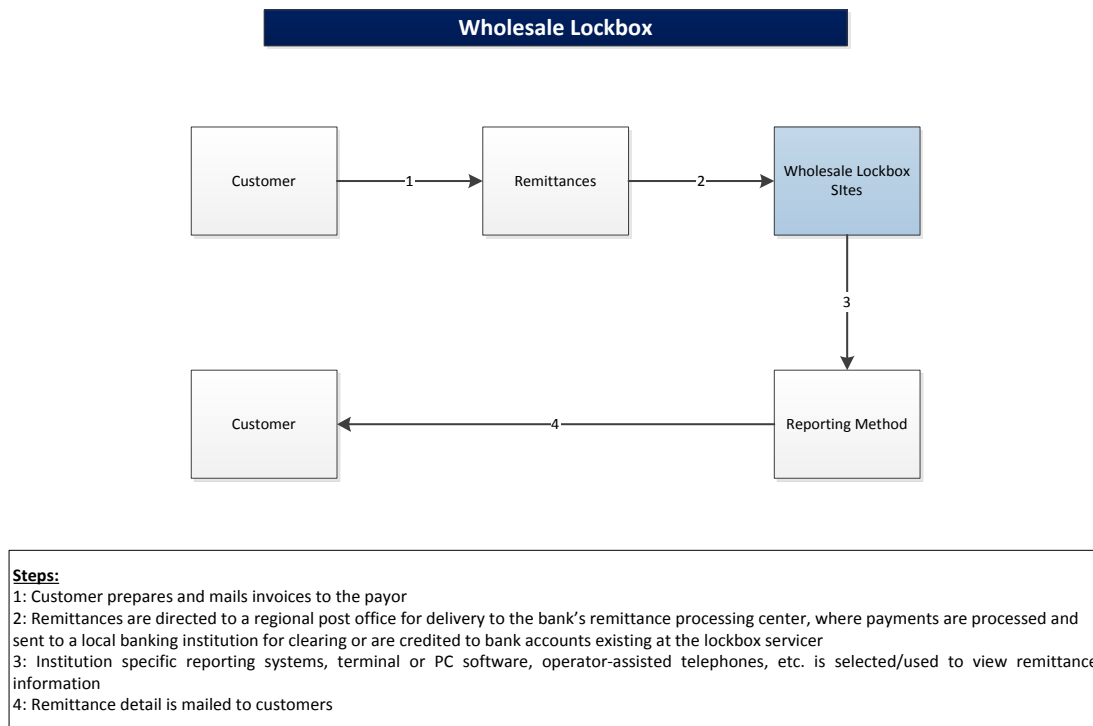
Services include B2B and **B2C** payments originated and collections. It is also responsible for inbound debit and credits received, and USD international ACH (IAT).

### *USD Funds Transfer*

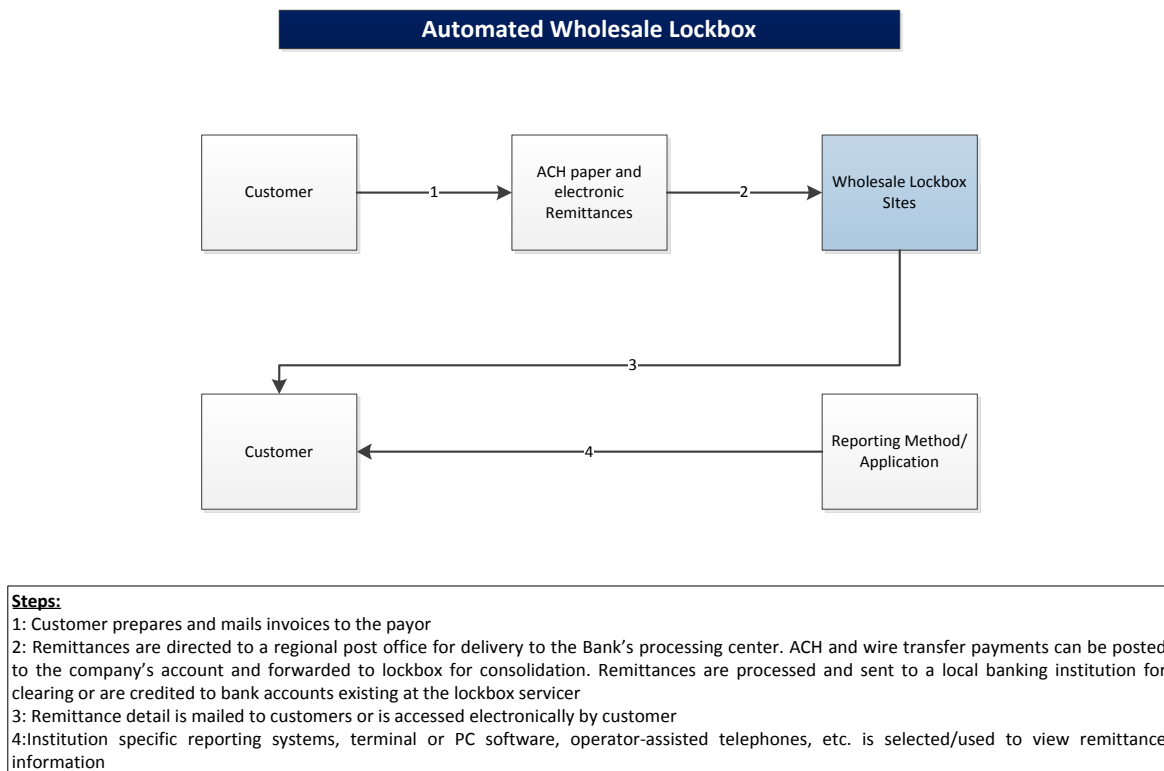
This corresponds to USD Wire Transfers processed out of accounts held at BNY Mellon, New York.

### *Wholesale Lockbox*

Wholesale lockbox clients of BNY Mellon prepare and mail invoices to customers as usual. Payments are directed to designated post office boxes for the BNY Mellon Treasury Services lockbox sites utilized by the client. Treasury Services retrieves the mail and operators process the items according to the client's specifications. This process is illustrated in the following process flow:



With automated wholesale lockbox services, a greater degree of processing speed and information about the status of payments is achieved. This service provides clients with extensive remittance information in electronic form on a daily basis. The process is shown in the following illustration:



### *World Wire Express*

World Wire Express is a solution that allows clients to send and receive cross-border USD and FX payments through the Fed Wire channel.

### *Zero Balance Account (ZBA)*

A **zero balance account (ZBA)** improves the effectiveness of cash managers by improving control over subsidiary accounts and reducing idle balances.

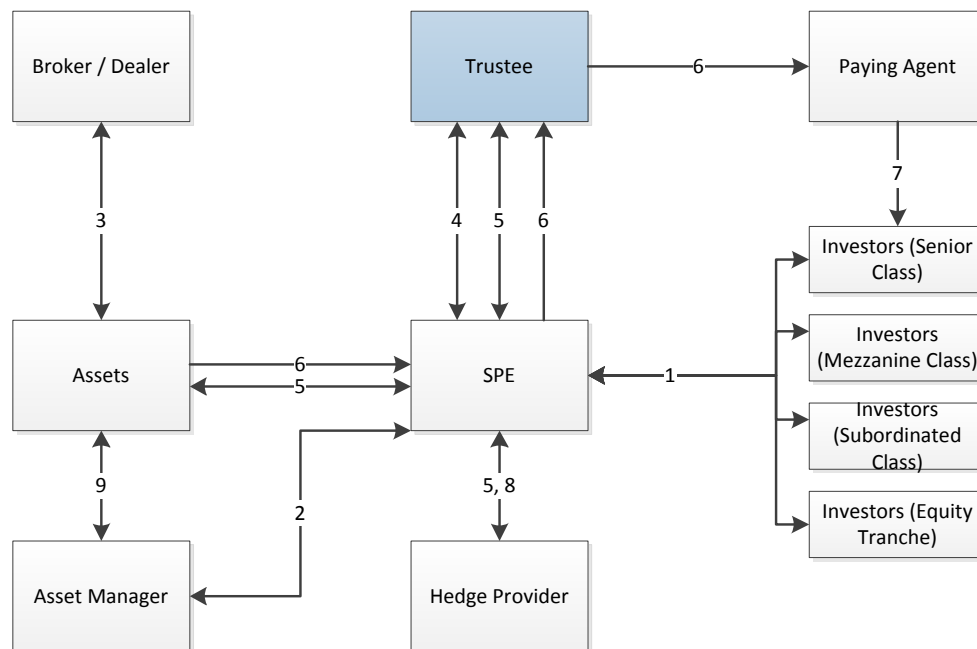
The client designs a centralized cash control systems that allows individual divisions to maintain subsidiary accounts. The DDA platform maintains the linkage between the subsidiary ZBA accounts and the master account. Each operating account maintains a zero or targeted balance. Funds are automatically concentrated into one master account every business day, enhancing the ability of cash managers to optimize the use of cash. BNY Mellon's ZBA service is multi-tiered allowing clients to access information from multiple divisional or functional accounts, thus, eliminating the need to maintain several ZBA structures.

## **Deal Types**

### *Asset and Collateral Administration – CDO, CLO and CFO*

The following diagram depicts the overall process flow of a CDO / CLO / CFO and the participating parties. As a trustee, BNY Mellon maintains funds often generated by issuances and holds these funds until they are invested in assets. The trustee is also responsible for remitting principal and interest payments to investors.

### CDO / CLO / CFO – Trustee role



#### **Steps:**

On closing date:

1. SPE issues Notes to the investors against payment for the Notes
2. Asset Manager enters into an Investment Management Agreement with the SPE to manage the SPE's investment portfolio
3. Trustee enters into a Trustee Agreement with the SPE. Trustee's role includes certain fiduciary responsibilities, which may include acting as Collateral Administrator and Calculation Agent. SPE transfers its interests in the assets (including hedge agreements and surety bonds) to the Trustee, which maintains first perfected security interest in the assets.
4. Proceeds from bond issuance sent to the Trustee until it is invested in assets
5. SPE uses proceeds of the Notes to pay for:
  - portfolio of assets sold by the Broker/Dealer
  - hedges from the Hedge Provider(s)

Throughout the life of the deal:

6. SPE receives interest payments and principal repayments on the portfolio of assets and transfers to the Trustee
7. Trustee transfers interest payments and principal repayments to the Investors through the Paying Agent
8. Hedge Providers makes payment, if any is due under the hedge agreement
9. Asset Manager manages the SPE's assets

### *Conventional Debt – Project Finance*

BNY Mellon invests and disburses funds as directed in both the construction and post-construction phases as noted as follows.

#### Construction Phase

The account bank holds the loan and / or collects the bond proceeds and disburses payments periodically to contractors and suppliers according to the terms of the financing documentation.

#### Post-construction Phase

The account bank collects the revenues from the project, maintains cash / securities accounts and reserve balances, and disburses cash and securities collateral pursuant to governing documents.

If BNY Mellon is appointed as a trustee to the transaction, it can create additional funds at the end of the construction period when repayment of the loan commences:

#### Debt Service Fund

A fund in which the issuer makes periodic deposits to assure the availability of sufficient funds for the payment of debt service requirements.

Typically, the amounts of the revenues to be deposited into the debt service fund and the timing of such deposits are structured to ensure a proper matching between debt service fund deposits and debt service payments coming due. Under certain transactions, issuers may be required to fund the debt service fund either one day prior to payment date, pay out the same day, or a certain number of days prior.

#### Debt Reserve Fund or Reserve Fund

A fund in which monies are placed that are to be applied to pay debt service if pledged revenues are insufficient to satisfy the debt service requirements.

This fund may be entirely funded with bond proceeds:

- At the time of issuance,
- Over time through the accumulation of pledged revenues (with a surety or other type of guaranty policy), or
- Upon the occurrence of a specified event.

If the debt service reserve fund is used in whole or part to pay debt service, the issuer usually is required to replenish the fund from the first available revenues or in periodic repayments over a specified period of time. The cash placed in this fund should be available for the next upcoming debt service payment date (monthly, quarterly or semi-annually).

#### Maintenance Reserve Account

An account that builds up cash balances sufficient to cover a project's maintenance expenses.

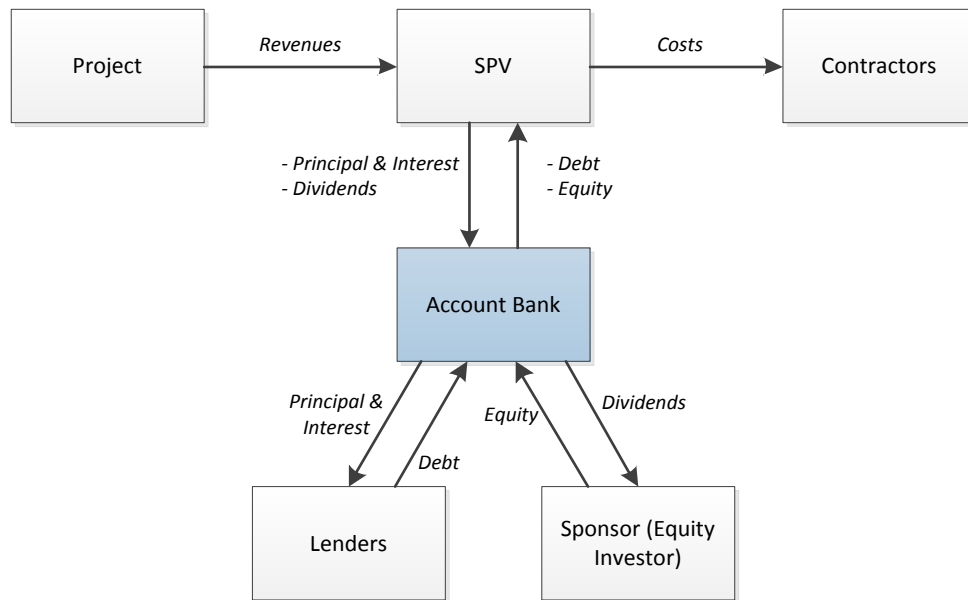
An example of a cash flow timeline tied to the above is provided in the next section for illustrative purposes.

#### Other

Corporate Trust may also fulfill the following roles in the context of project finance: depository services (depository bank), securities intermediary, collateral agent, and administrative agent.

The following diagram depicts the overall process flow of a project finance deal. The diagram also highlights BNY Mellon's role as an account bank under such an agreement. Monies from the debt issuance and / or loan are placed with BNY Mellon, who, over time, will remit funds to support the project. Moreover, the account bank will create a reserve fund so that, in the event the issuer should default, bondholders will receive scheduled payments.

### Project Finance



### Conventional Debt – Repacks

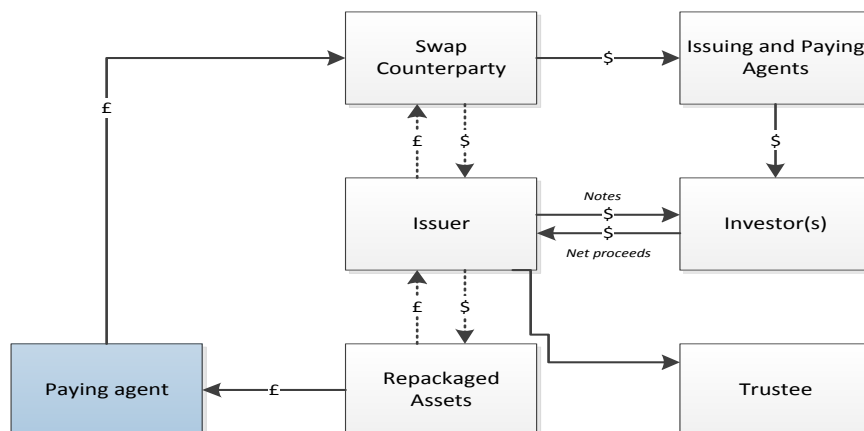
Corporate Trust mainly acts as a paying agent under a repack deal. The following diagram depicts the overall process flow of repack transaction.

### Repack – cross currency swap transaction example\*

Legend:

----- synthetic flow

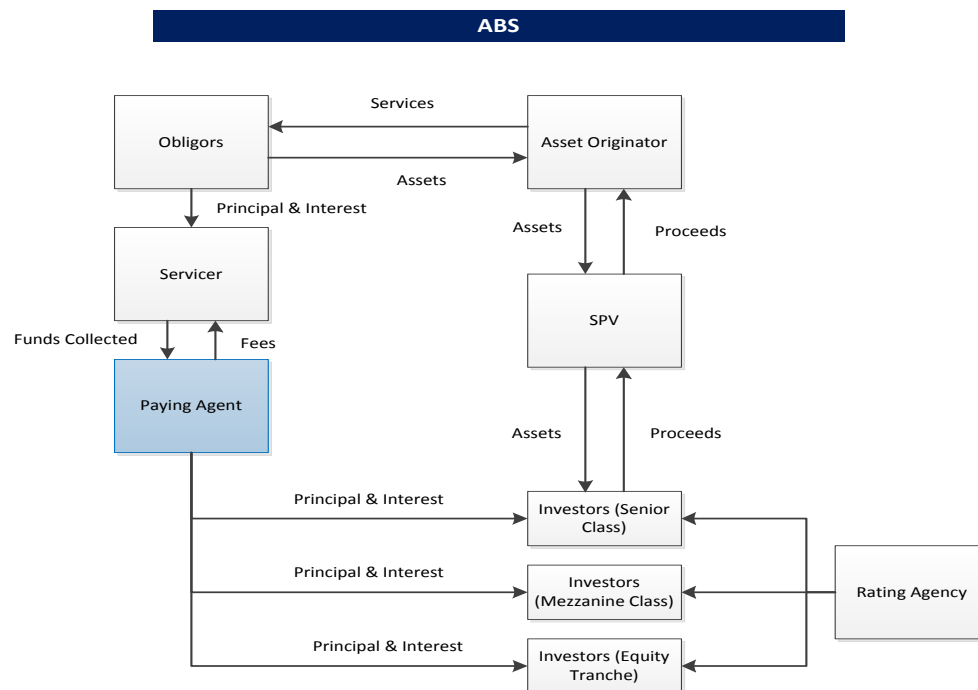
— real flow



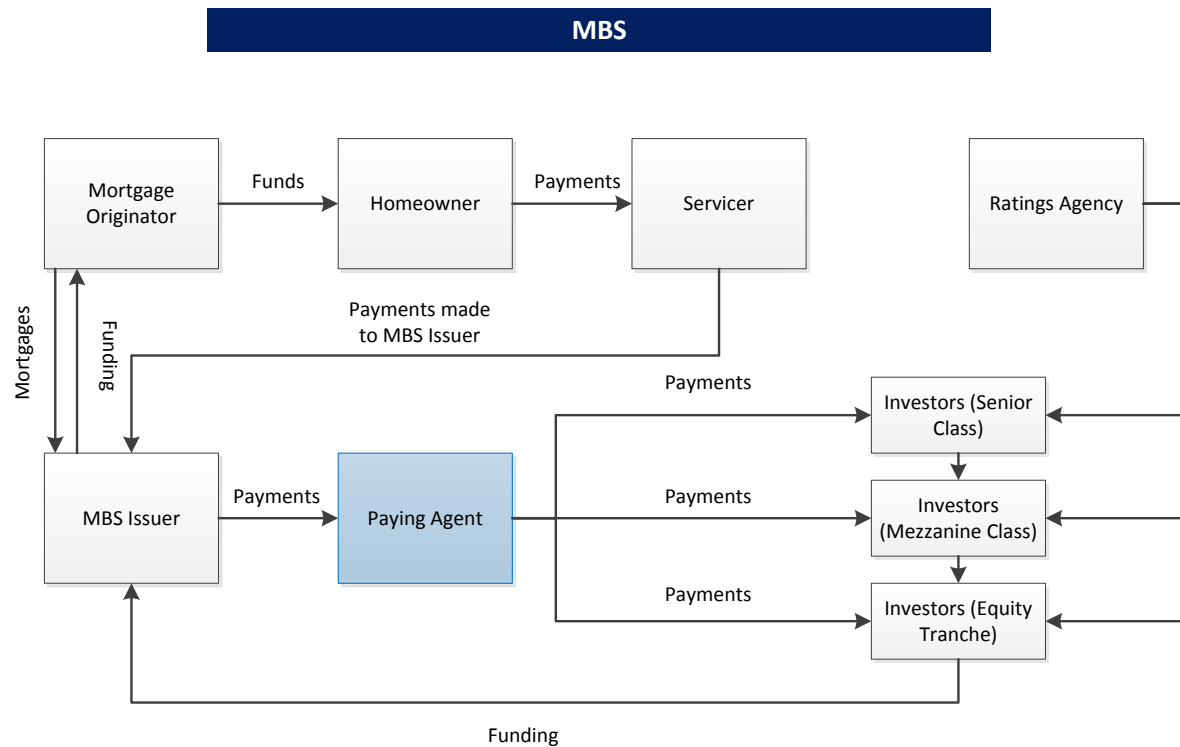
\*Example provided corresponds to the transformation of one currency security for flows in another currency

### Structured Finance – ABS and MBS

The following diagram depicts the overall process flow of an ABS and the participating parties. As a paying agent, BNY Mellon maintains accumulated funds and administers these monies to investors.



The following diagram depicts the overall process flow of an MBS and the participating parties. As a paying agent, BNY Mellon accumulates payments made by the issuer before these funds can be released to investors. BNY Mellon accumulates funds and passes them on to the investor on a monthly basis, generally, which creates a predictable cash flow pattern.



## SEC Rule 15c3-3 Customer Protection Rule

The SEC Rule 15c3-3, commonly known as the “customer protection rule,” is intended to protect customers’ funds held by their broker-dealers and prohibit broker-dealers from using customer funds and securities to finance any part of their business that is unrelated to servicing securities customers. The rule requires a broker-dealer that maintains custody of customer securities and cash to comply with two primary requirements.

First, the rule requires broker-dealers to maintain physical possession or control over customers’ fully paid and excess margin securities. For purposes of the first requirement, physical possession or control means that the broker-dealer must hold fully paid and excess margin securities in certain specified locations and that the securities shall remain free of any liens or other security interests. One such permissible location is a US bank.

Second, the broker-dealer must maintain a reserve of cash or qualified securities in an account at a bank that is at least equal in value to the net cash the broker-dealer owes to customers. The calculation of net cash set forth in the customer protection rule requires that the broker-dealer add all customer credit items (such as an amount equal to any free cash in customer securities accounts) and deduct from such credit items, any customer debit items (such as margin loans). The net amount by which customer credit items exceed customer debit items, if any, must be on deposit in the broker-dealer’s customer reserve account.



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## GLOSSARY

### A

**Accounts Payable** – an accounting entry that represents an entity's obligation to pay off a short-term debt to its creditors.

**ACH** – An automated clearing house (ACH) is an electronic funds-transfer system run by the National Automated Clearing House Association (NACHA). This payment system deals with payroll, direct deposit, tax refunds, consumer bills, tax payments and many more payment services.

**Alternative Investment** – an asset that is not one of the conventional investment types, such as stocks, bonds and cash. Most alternative investment assets are held by institutional investors or high-net-worth individuals because of the complex natures and limited regulations of the investments. Alternative investments include private equity, hedge funds, managed futures, real estate, commodities and derivatives contracts.

**American Depositary Receipt** – a negotiable certificate issued by a U.S. bank representing one or a number of shares in a foreign stock that is traded on a U.S. exchange. ADRs are denominated in U.S. dollars, with the underlying security held by a U.S. financial institution overseas.

**Arbitrage** – the simultaneous purchase and sale of an asset to profit from a difference in the price and exists as a result of inefficiencies in the market.

**Asset-Backed Security** – financial security collateralized by a pool of underlying assets (loan, lease, credit card debt, a company's receivables, royalties, etc., excluding mortgages). The pool of assets is usually a group of illiquid assets which cannot be sold individually.

**Automatic Investment Service** – an investment sweep solution provided by BNY Mellon.

### B

**B2B** – known as, “business to business,” B2B is a type of transaction that exists between businesses, such as one involving a manufacturer and wholesaler, or a wholesaler and a retailer. Business to business refers to business that is conducted between companies, rather than between a company and individual consumers.

**B2C** – “Business to consumer” (B2C) is business or transactions conducted directly between a company and consumers who are the end-users of its products or services.

**Blue Sky Laws** – state regulations designed to protect investors against securities fraud by requiring sellers of new issues to register their offerings and provide financial details. This allows investors to base their judgments on trustworthy data.

**Broker-Dealer** – a person or firm who buys and sells securities, operating as both a broker and a dealer, depending on the transaction. The term broker-dealer is used in U.S. securities regulation vernacular to describe stock brokerages, because most of them act as both agents and principals. A brokerage acts as a broker (or agent) when it executes orders on behalf of clients, whereas it acts as a dealer, or principal, when it trades for its own account.

**Buy-In** – refers to the acceptance of a foreign currency check for immediate credit in USD equivalent, by processing as cash letter to BNY Mellon's foreign correspondent bank.

## C

**C2B** – known as, “consumer to business,” C2B is a type of transaction that exists between individual consumers and a business.

**Certificate of Deposit (CD)** – a promissory note issued by a bank. It is a savings certificate entitling the bearer to receive interest and includes a maturity date and fixed interest rate.

**Checking Account** – a transactional deposit account held at a financial institution that allows for deposits and withdrawals. Money held in a checking account is very liquid, and can be withdrawn using checks, automated cash machines and electronic debits, among other methods. A checking account differs from other bank accounts in that it often allows for numerous withdrawals and unlimited deposits, whereas savings accounts sometimes limit both. In exchange for the liquidity offered by checking accounts, interest rates tend to be very low, if offered, on the accounts.

**Clearing** – also known as a, “clearing broker.” A member of an exchange that acts as a liaison between an investor and a clearing corporation. A clearing broker helps to ensure that the trade is settled appropriately and the transaction is successful. Clearing brokers are also responsible for maintaining the paperwork associated with the clearing and executing of a transaction.

**Calculation Agent** – an entity that determines the price of an investment product such as a swap. A calculation agent calculates the value of a derivative or the amount owing from each party. The agent also establishes the price for a structured product and may act as its guarantor and issuer.

**Cash Management** – process of collecting and managing cash, as well as using it for (short-term) investing.

**Cash Management Access Account (CMAA)** – a single source for banking and brokerage

**Cash Reserve Account (CRA)** – an investment sweep vehicle offered by BNY Mellon when the bank is authorized to act as a fiduciary.

**Collateral** – securities pledged to secure loans and other counterparty exposures.

**Collateralized Debt Obligation (CDO)** – a pool of debt and debt-like instruments.

**Collateralized Fund Obligation (CFO)** – a pool of funds, typically within the private equity space (EMEA based deals). CFs issue notes backed by a pool of hedge fund investments. Generally, a special purpose entity (SPV) purchases the pool of underlying hedge fund investments, which are then used as collateral to back the notes.

**Collateralized Loan Obligation (CLO)** – a pool of primarily syndicated loans.

**Concentration Bank** – a financial institution that is the primary bank of an organization; the bank where the organization does most of its transactions. Organizations can use multiple banks, but generally deal significantly with one bank in particular, which is referred to as the concentration bank.

**Controlled Disbursement** – used to regulate the flow of checks through the banking system on a daily basis, usually by mandating once-daily distributions of checks. Controlled disbursement is generally used to maximize an institution's cash available for investment or debt payments, or avoid any costly overdrafts resulting from incorrect funding estimates.

**Counterparty** – the other party that participates in a financial transaction. Every buyer of an asset must be paired up with a seller who is willing to sell, and vice versa.

**Covered Bonds** – a security created from public sector loans or mortgage loans where the security is backed by a separate group of loans; it typically carries a maturity rate of two to 10 years and enjoys relatively high credit ratings.

**Clearing** – the handling of the confirmation, settlement and delivery of transactions, fulfilling the main obligation of ensuring transactions are made in a prompt and efficient manner.

**Custody / Custodian** – a financial institution that holds customer's assets for safekeeping so as to minimize the risk of their theft or loss. A custodian holds securities and other assets in electronic or physical form.

## D

**Deposit** – a transaction involving a transfer of funds to another party for safekeeping, or a portion of funds that is used as a security or collateral for the delivery of a good.

**Depository** – an organization, bank or an institution that holds and assists in the trading of securities. The term can also refer to a depository institution that accepts currency deposits from customers.

**Depository Receipt** – a negotiable financial instrument issued by a bank to represent a foreign company's publicly traded securities.

**Derivative** – a security with a price dependent upon one or more underlying assets. The derivative itself is a contract between two or more parties based upon the asset or assets. Its value is determined by fluctuations in the underlying asset. The most common underlying assets include stocks, bonds, commodities, currencies, interest rates and market indexes.

**Derivative Exchange Trade** – a financial instrument whose value is based on the value of another asset, and that trades on a regulated exchange. Derivative trades have advantages over over-the-counter (OTC) derivatives, such as standardization, liquidity, and elimination of default risk. Futures and options are two of the most popular exchange traded derivatives.

**Dividend** – A distribution of a portion of a company's earnings, decided by the board of directors, to a class of its shareholders. Rather than cash, this payments is made in the form of additional shares.

**Domicile** – a person's primary residence for tax purposes.

**DTC Clearing Services** – a limited purpose trust company that provides safekeeping through electronic recordkeeping of securities balances. It also acts as a clearinghouse in the settlement of corporate and municipal securities trades. The DTC holds trillions of dollars of securities in custody, including corporate stocks and bonds, municipal bonds and money market instruments.

## E

**Escrow Agent** – an independent third party which holds and administers certain designated assets pending completion of a business transaction between two or more parties. The escrow agent ordinarily holds designated assets (securities, cash, property, etc.), on behalf of counterparties and releases them once pre-conditions are met.

**Entrenchment** – fortifying client relationships by providing ancillary, value-added services.

**Event Driven Strategy** – strategies that take advantage of transaction announcements and other one-time events.

**Excess Securities Collateral** – when collateral exceeds the required margin, BNY Mellon may return the excess to the securities collateral borrower (i.e. client).

**Exchange Traded Funds (ETFs)** – comprised mostly of stock and bond index trackers and combine the range of a diversified portfolio with the simplicity of trading a single stock. On the primary market, ETFs are traded continuously throughout the trading day on a stock exchange by authorized large broker-dealers. The ETFs are priced close to their net asset value over the course of the trading day.

## F

**Fedwire Securities Service** – the Federal Reserve payments system, commonly known as the Fedwire, moves trillions of dollars daily between banks throughout the United States. Transactions are for same-day settlement.

**Fixed Income** – a type of investing or budgeting style for which real return rates or periodic income is received at regular intervals and at reasonably predictable levels. Fixed-income investors are typically retired individuals who rely on their investments to provide a regular, stable income stream.

**Financial Instrument** – assets that can be traded. They can also be seen as packages of capital that may be traded.

**Fund** – a source of money that will be allocated to a specific purpose. A fund can be established for any purpose whatsoever, whether it is a city government setting aside money to build a new civic center, a college setting aside money to award a scholarship, or an insurance company setting aside money to pay its customers' claims.

## G

**Gate Provision** – a restriction placed on a hedge fund limiting the amount of withdrawals from the fund during a redemption period. The implementation of a gate on a hedge fund is up to the hedge fund manager. The purpose of the provision is to prevent a run on the fund, which could cripple its operations, as a large number of withdrawals from the fund would force the manager to sell off a large number of positions.

**Global Macro Event Strategy** – a hedge fund or mutual fund strategy that bases its holdings, such as long and short positions in various equity, fixed income, currency, commodities and futures markets, primarily on the overall economic and political views of various countries, or their macroeconomic principles. For example, if a manager believes the United States is headed into recession, he might short sell stocks and futures contracts on major U.S. indices or the U.S.

dollar, or seeing big opportunity for growth in Singapore, might take long positions in Singapore's assets.

**Government Securities** – debt obligations (e.g., bonds), issued by a government authority, with the promise of repayment upon maturity, backed by the government.

## H

## I

**Indenture** – refers to a legal and binding agreement, contract or document between two or more parties, and traditionally, these documents featured indented sides, as indicated by their name.

**Initial Margin** – the percentage of the purchase price of securities (that can be purchased on margin) that the investor must pay for with his own cash or marginable securities; it is also called the initial margin requirement.

**Insurance Trust** – a form of financial guarantee used to secure potential insurance related liabilities owned by a grantor to the beneficiary. An insurance trust serves as protection to an insurance carrier from the risk that the client or other counterparty fails to pay obligations it owes under the terms of an (re)insurance contract.

**Investment Grade** – a rating indicating that a municipal or corporate bond has a relatively low risk of default. Standard & Poor's, Moody's and other rating firms use different designations consisting of upper and lower case letters A and B to indicate a bond's credit quality rating. AAA and AA are a high credit quality, A and BBB are medium credit quality, and anything below BB, B, CCC, etc. are considered low credit quality, or "junk bonds."

**IOLA/IOLTA** – "Interest on Lawyers Accounts" and, "Interest on Lawyers Trust Accounts." These are checking accounts that are limited to attorneys and law firms. IOLAs hold escrow funds for multiple clients. IOLTAs hold funds used by a state to pay for legal services for people unable to afford such services.

**Issuer** – A legal entity that develops, registers and sells securities for the purpose of financing its operations. Issuers may be domestic or foreign governments, corporations or investment trusts.

## J

## K

## L

**Late Night Investment Service (LNI)** – an on-balance sheet, investment sweep solution offered by BNY Mellon.

**Letter of Credit** – a letter from a bank guaranteeing that a buyer's payment to a seller will be received on time and for the correct amount. In the event that the buyer is unable to make payment on the purchase, the bank will be required to cover the full or remaining amount of the purchase.

**Limited Recourse** – A debt in which the creditor has limited claims on the loan in the event of a default. A limited recourse debt stands in between secured bonds and unsecured bonds in terms of the backing behind the loan.

**Lockbox** – a service provided by BNY Mellon's Treasury Service business. The service allows the payments made by customers to be directed to a special post office box, rather than going to the client. BNY Mellon will retrieve the payments, process them, and deposit the funds directly into the client's account.

**Lockup Period** – the time period during which an initial investment cannot be redeemed from the fund. Once the lockup period has concluded, investors can redeem their shares during defined periods.

**Long and Short Equity** – an investing strategy of taking long positions in stocks that are expected to appreciate and short positions in stocks that are expected to decline. A long/short equity strategy seeks to minimize market exposure, while profiting from stock gains in the long positions and price declines in the short positions.

## M

**Managed Futures** – an alternative investment strategy in which professional portfolio managers use futures contracts as part of their overall investment strategy. Managed futures provide portfolio diversification among various types of investment styles and asset classes to help mitigate portfolio risk in a way that is not possible in direct equity investments.

**Margin Call** – a broker's demand on an investor using margin to deposit additional money or securities so that the margin account is brought up to the minimum maintenance margin. Margin calls occur when the account value depresses to a value calculated by the broker's particular formula.

**Margin Direct Service** – BNY Mellon is acting as an independent third party collateral agent to initial margin posted.

**Money Market** – where financial instruments with high liquidity and very short maturities are traded. It is used by participants as a means for borrowing and lending in the short term, with maturities that usually range from overnight to just under a year. Common money market instruments include Eurodollar deposits, negotiable certificates of deposit (CDs), bankers acceptances, U.S. Treasury bills, commercial paper, municipal notes, federal funds and repurchase agreements (repos).

**Mortgage-Backed Security (MBS)** – a type of asset-backed security secured by a mortgage or collection of mortgages. This security must also be grouped in one of the top two ratings as determined by an accredited credit rating agency, and usually pays periodic payments that are similar to coupon payments.

## N

**Nostro Account** – an account that a bank holds in a foreign currency in another bank.

## O

**Offshore (vs. Onshore) Fund Services** – any item that is located or based outside of one's national boundaries. The term "offshore" is used to describe foreign banks, corporations, investments and deposits.

**Operational** – from components of certain services that have the tendency to result in deposits.

**OTC** – “Over-the-counter” (OTC) is a security traded in some context other than on a formal exchange. OTC can be used to refer to stocks that trade via a dealer network as opposed to on a centralized exchange. It also refers to debt securities and other financial instruments, such as derivatives, which are traded through a dealer network.

## P

**Paying Agent** – an agent who accepts payments from the issuer of a security and then distributes the payments to the holders of the security. Also known as a, "disbursing agent."

**Platinum Client** – a high-net worth corporate customer.

**Private Equity** – company ownership by a specialty investment firm. Equity capital is not quoted on a public exchange and is composed of funds and investors that directly invest in private companies, or that engage in buyouts of public companies, resulting in the delisting of public equity.

**Private Label** – a brand placed on products that a large organization or manufacturer has created for a smaller company or retailer. The smaller company places their own private brand label on the final product or service.

**Project Finance** – a limited recourse and long-term financing of infrastructure and industrial projects based on the forecasted cash flows of the project, rather than the balance sheets of the project sponsors. A project financing structure involves a number of investors (known as sponsors), as well as a syndicate of banks or other lending institutions (known as lenders), that provide loans or issue bonds for the project. The loans are secured by the project assets and are paid entirely from project cash flows, including the revenue-producing contracts.

**Purchase Price** – the price an investor pays for an investment, and the price becomes the investor's cost basis for the calculation of a gain or loss when the investment is sold. The purchase price includes any commissions or sales charges paid for the investment, and weighted average cost is used for multiple purchases of the same security (relates to, “initial margin” term).

## Q

## R

**Redemption Requirements** – Requires BNY Mellon investment management clients to maintain adequate liquidity to ensure client redemption requests to take money out of investments can be processed in a timely manner.

**Registered Funds** – not pure mutual funds and therefore tend to have a broader investment base.



**Registrar** – the institution, often a bank or trust company, responsible for keeping records of bondholders and shareholders when an issuer sells securities to the public. When an issuer needs to make an interest payment on a bond or a dividend payment to shareholders, the firm refers to the list of registered owners maintained by the registrar.

**Reinsurance** – insurance for insurers.

**Reinsurance Contract** – transfers portions of risk portfolios to other parties in order to reduce the likelihood of having to pay a large obligation resulting from an insurance claim.

**Remit** – the task or area of activity officially assigned to an individual or organization

**Repack** – a security or pool of securities that have been bundled together to create a note or class of notes that are more attractive to investors than the original securities, as they may have become illiquid or not tradable. A debt instrument of a debt instrument. Similar to ABS except that the asset underlying a repack generally have a set payment date and an identifiable amount, whereas an asset-backed issue can have a variety of income sources on various dates. Also known as, “repackaging.”

**Repurchase Agreement (Repo)** – a form of short-term borrowing for dealers in government securities. The dealer sells the government securities to investors, usually on an overnight basis, and buys them back the following day.

**Retained Assets** – a retained asset account permits insurance companies to retain balances after a death claim has been filed in order to provide beneficiaries with additional time to determine what to do with the proceeds.

**Rights Issues** – a rights “offering” issue is an issue of rights to a company’s existing shareholders that entitles them to buy additional shares directly from the company in proportion to their existing holdings, within a fixed period of time.

## S

**Securities Settlement** – a post-trade process where the buyer receives the purchased securities and the seller receives the corresponding cash for those securities. Settlement of securities trades is an operational activity associated with custody accounts. **Settlement timeframes** (or the number of day after the transaction date when a settlement clears), varies depending on clearing markets.

**Securitization** – the financial practice of pooling various types of contractual debt such as residential mortgages, commercial mortgages, auto loans or credit card debt obligations (or other non-debt assets which generate receivables) and selling their related cash flows to third party investors as securities, which may be described as bonds, pass-through securities, or collateralized debt obligations (CDOs). Investors are repaid from the principal and interest cash flows collected from the underlying debt and redistributed through the capital structure of the new financing. Securities backed by mortgage receivables are called mortgage-backed securities (MBS), while those backed by other types of receivables are asset-backed securities (ABS).

**Settlement Timeframes** – the number of days after the transaction date when a settlement clears.

**Special Purpose Vehicle (SPV)** – a legal entity created to securitize ABS or MBS. It creates and sells the securities and then directs the proceeds of the sold securities to the originating bank. The SPV bundles the underlying assets into a specified pool based on the risk preferences of investors. The creation of a SPV ensures that the underlying asset pool is held separately from other assets held by the originators. Consequently, if the originator should default, the assets held by the SPV will not be affected.

**Subscription Process** – an application by an investor to join a limited partnership, and it is also used to sell stock shares in a private company. All limited partners must be approved by the general partner. The limited partner candidate fills out a form documenting the investor's suitability for the investment in the partnership.

**SWIFT** – the, “Society for Worldwide Interbank Financial Telecommunications.” SWIFT enables its users to exchange automated, standardized financial information securely and reliably, thereby lowering costs, reducing operational risk and eliminating operational inefficiencies. SWIFT also brings the financial community together to work collaboratively to shape market practice, define standards and debate issues of mutual interest. BNY Mellon is a charter member of SWIFT and is the sixth largest participant worldwide in SWIFT message volume.

**Syndicated Loan** – a loan offered by a group of lenders – referred to as a syndicate – that work together to provide funds for a single borrower. The borrower could be a corporation, a large project or a sovereignty, such as a government. The loan can involve a fixed amount of funds, a credit line or a combination of the two (please refer to “CLO” term).

## T

**Trade Service Finance** – services employed by financial institutions (mostly correspondent banking clients and corporates), to ensure timely execution of transactions and to avoid costly delays.

**Transfer Agency** – a trust company, bank or similar financial institution assigned by a corporation to maintain records of investors and account balances. The transfer agent records transactions, cancels and issues certificates, processes investor mailings and deals with other investor problems (e.g., lost or stolen certificates). A transfer agent works closely with a registrar to ensure that investors receive interest payments and dividends when they are due and to send monthly investment statements to mutual fund shareholders.

**Trustee** – a person or firm that holds and administers property or assets for the benefit of a third party.

## U

**Uncommitted** – an agreement between a lender and a borrower where the lender agrees to make short-term funding available to the borrower; used to finance temporary business needs with fluctuating revenues.

**Unencumbered Monies** – refers to an asset or property that is free and clear of any encumbrances, such as creditor claims or liens. An unencumbered asset is much easier to sell or transfer than one with an encumbrance. Examples of typical unencumbered assets are a house without an associated mortgage or other lien, a car on which the automobile loan has been paid off, or stocks purchased in a cash account.

**USD Clearing** – the process in which foreign denominated currency payments are converted, on behalf of foreign clients, into U.S. dollars. BNY Mellon, acting as a UDS clearing bank, will convert the currency and remit the money to another banking institution and instructs this institution to pay the client's counterparty.

V

W

X

Y

Z

**Zero Balance Account (ZBA)** – a checking account in which a balance of zero is maintained by automatically transferring funds from a master account in an amount only large enough to cover checks presented. A ZBA is used by corporations to eliminate excess balances in separate accounts and maintain greater control over disbursements.