

# Floating NAV Intraday NAV Strike Considerations



Money market funds may choose to strike several net asset values (NAVs) per day in order to offer several intraday cash settlement periods to their institutional clients. The attached model has been developed to illustrate the effects of certain accounting policy choices on multiclass floating NAV money market funds that calculate NAV several times per day under various hypothetical scenarios. The model entails two separate worksheets intended to illustrate different concepts.

The **“floating NAVs” worksheet** illustrates the effects of (a) recognizing estimated values for shareholder transactions on the fund’s books versus recognizing the actual values for shareholder transactions once they are known and (b) locking in realized gains and losses in the period realized versus reallocating any realized gains and losses at each NAV calculation throughout the day and locking them in at the day’s final NAV calculation.

The **“2a-4 trade timing” worksheet** illustrates the effects of recognizing portfolio trades on the fund’s books in the period that they occur versus deferring recognition to the next period when calculating NAV. This worksheet also includes a scenario with a large net inflow into a particular class to better illustrate the effects of the timing of the recognition of portfolio trades. Rule 2a-4 under the Investment Company Act of 1940 requires that portfolio trades be recognized in NAV no later than the first calculation on the next business day after trade date.

Both the floating NAVs worksheet and the 2a-4 trade timing worksheet describe a set of assumptions for a hypothetical floating NAV money market fund that calculates NAVs several times per day. These assumptions include:

- » The fund has two share classes and NAVs are calculated three times per day at 9:00 a.m., noon, and 3:00 p.m.
- » A shareholder submits a \$200 million redemption order to the fund’s transfer agent at 10:00 a.m.
- » The redemption order is processed at the NAV next calculated (noon)
- » The fund’s portfolio manager sells \$200 million face amount security at 11:00 a.m.
- » Net investment income is excluded from intraday NAVs
- » Dividends are declared on shares in the fund overnight

The following scenarios are hypothetical and are for illustrative purposes only. They are not intended to imply that the timing and process described for recognition of shareholder trades, portfolio trades, and multiclass allocations comply with the Investment Company Act of 1940. Funds should consult with their legal and accounting advisers.

## Floating NAVs

**Scenario 1:** In this scenario, unrealized appreciation/depreciation and realized gain/loss amounts are allocated to the classes based on relative net assets. The \$200 million face amount security sale at 11:00 a.m. is recognized at that time and reflected in the noon NAV calculation. The related \$1.6 million realized gain is locked in at the noon NAV calculation and not available for reallocation across the classes in subsequent periods. The \$200 million shareholder redemption received by the transfer agent at 10:00 a.m. is processed at the noon NAV, causing the shares' outstanding balance to decline in the subsequent period. The decline in the outstanding share balance (and the net assets in Class 1) causes the class allocation ratio used in the 3:00 p.m. NAV calculation to change.

**Scenario 2:** In this scenario, an estimated change in capital stock associated with the \$200 million shareholder redemption received at 10:00 a.m. is recognized for purposes of calculating class allocation ratios used to calculate the noon NAV. The change in capital stock is estimated using the 9:00 a.m. NAV. Once the noon NAV has been calculated, the change in estimated capital stock is reversed, and the actual number of shares redeemed is calculated using the noon NAV. This scenario assumes the gain realized on the \$200 million face amount security sale is locked in at the noon NAV calculation and not available for reallocation across the classes in subsequent periods.

**Scenario 3:** This scenario is the same as scenario 1 except that the gain realized on the sale of the \$200 million face amount security at 11:00 a.m. is available to be reallocated across the classes. In particular, the revised class allocation ratio reflecting the \$200 million shareholder redemption processed at the noon NAV is applied to the realized gain amount, causing a reallocation across the classes of \$39,920.

**Scenario 4:** This scenario is the same as scenario 3 except that the gain realized on the sale of the \$200 million face amount security at 11:00 a.m. is available to be reallocated across the classes. However, because there are no shareholder flows recognized in the final NAV period, the allocation ratio does not change and no realized gains are reallocated.

## Assumptions

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- » 2 share classes
  - » Valuation points: 9 a.m., noon, and 3 p.m.
  - » 90 percent/10 percent asset split between Class 1 and Class 2
  - » Net income is backed out intraday
  - » Income is only distributed on end-of-day shares
  - » Estimates are based on prior intraday NAV
  - » \$200 million redemption in Class 1 received by transfer agent at 10 a.m., received noon NAV
  - » Sale of \$200 million face ABS security; traded in the market around 11 a.m.
    - Sale price: \$100.30
    - 9 a.m. and noon market price: \$99.94
    - Original purchase price: \$99.50
  - » Share class allocation based on prior net assets plus cap stock dollars

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This is a hypothetical document to facilitate discussion of considerations for multiple NAV strikes per day. It is not endorsed by ICI as an all-inclusive, definitive approach for calculating multiple NAVs per day.

**Scenario 1: Do not estimate cap stock, lock in realized gain/loss allocations**

Day 1	Fund	Class 1	Class 2
Assets	\$1,000,000,000.00	\$900,000,000.00	\$100,000,000.00
Appreciation/depreciation	\$880,000.00	\$792,000.00	\$88,000.00
Realized gain/loss	-	-	-
Cap stock flows	-	-	-
Net assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Shares outstanding (S/O) change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000
<b>9 a.m.</b>	NAV	\$1.0009	\$1.0009

	Fund	Class 1	Class 2
Assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Appreciation/depreciation	(\$880,000.00)	(\$792,000.00)	(\$88,000.00)
Realized gain/loss	\$1,600,000.00	\$1,440,000.00	\$160,000.00
Cap stock flows	-	-	-
Net assets	\$1,001,600,000.00	\$901,440,000.00	\$100,160,000.00
S/O change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000

Noon	Fund	Class 1	Class 2
NAV	\$1.0016	\$1.0016	\$1.0016
Assets	\$1,001,600,000.00	\$901,440,000.00	\$100,160,000.00
Appreciation/depreciation	-	-	-
Realized gain/loss	-	-	-
Cap stock flows	(\$200,000,000.00)	(\$200,000,000.00)	-
Net assets	\$801,600,000.00	\$701,440,000.00	\$100,160,000.00
S/O change	(199,680,511.182)	(199,680,511.182)	-
S/O	800,319,488.818	700,319,488.818	100,000,000.000

<b>3 p.m.</b>	NAV	\$1.0016	\$1.0016
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**Scenario 2: Estimate cap stock, lock in realized gain/loss allocations**

Day 1	Fund	Class 1	Class 2
Assets	\$1,000,000,000.00	\$900,000,000.00	\$100,000,000.00
Appreciation/depreciation	\$880,000.00	\$792,000.00	\$88,000.00
Realized gain/loss	-	-	-
Cap stock flows	-	-	-
Net assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Shares outstanding (S/O) change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000
<b>9 a.m.</b>	NAV	\$1.0009	\$1.0009

	Fund	Class 1	Class 2
Assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Appreciation/depreciation	(\$880,000.00)	(\$770,024.17)	(\$109,975.83)
Realized gain/loss	\$1,600,000.00	\$1,400,043.95	\$199,956.05
Cap stock flows	(\$200,000,000.00)	(\$200,000,000.00)	-
Net assets	\$801,600,000.00	\$701,422,019.78	\$100,177,980.22
S/O change	(199,820,161.854)	(199,820,161.854)	-
S/O	800,179,838.146	700,179,838.146	100,000,000.000

Noon	Fund	Class 1	Class 2
NAV	\$1.0018	\$1.0018	\$1.0018
Assets	\$801,600,000.00	\$701,422,019.78	\$100,177,980.22
Appreciation/depreciation	-	-	-
Realized gain/loss	-	-	-
Cap stock flows	-	-	-
Net assets	\$801,600,000.00	\$701,422,019.78	\$100,177,980.22
S/O change	179,515.019	179,515.019	-
S/O	800,359,353.164	700,359,353.164	100,000,000.000

<b>3 p.m.</b>	NAV	\$1.0016	\$1.0015
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**Scenario 3: Do not estimate cap stock, do not lock in realized gain/loss allocations**

Day 1	Fund	Class 1	Class 2
Assets	\$1,000,000,000.00	\$900,000,000.00	\$100,000,000.00
Appreciation/depreciation	\$880,000.00	\$792,000.00	\$88,000.00
Realized gain/loss	-	-	-
Cap stock flows	-	-	-
Net assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Shares outstanding (S/O) change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000
9 a.m. NAV	\$1.0009	\$1.0009	\$1.0009

	Fund	Class 1	Class 2
Assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Appreciation/depreciation	(\$880,000.00)	(\$792,000.00)	(\$88,000.00)
Realized gain/loss	\$1,600,000.00	\$1,440,000.00	\$160,000.00
Cap stock flows	-	-	-
Net assets	\$1,001,600,000.00	\$901,440,000.00	\$100,160,000.00
S/O change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000
Noon NAV	\$1.0016	\$1.0016	\$1.0016

	Fund	Class 1	Class 2
Assets	\$1,001,600,000.00	\$901,440,000.00	\$100,160,000.00
Appreciation/depreciation	-	-	-
Realized gain/loss	-	(\$39,920.16)	\$39,920.16
Cap stock flows	(\$200,000,000.00)	(\$200,000,000.00)	-
Net assets	\$801,600,000.00	\$701,400,079.84	\$100,199,920.16
S/O change	(199,680,511.182)	(199,680,511.182)	-
S/O	800,319,488.818	700,319,488.818	100,000,000.000
3 p.m. NAV	\$1.0016	\$1.0015	\$1.0020

**Scenario 4: Estimate cap stock, do not lock in realized gain/loss allocations**

Day 1	Fund	Class 1	Class 2
Assets	\$1,000,000,000.00	\$900,000,000.00	\$100,000,000.00
Appreciation/depreciation	\$880,000.00	\$792,000.00	\$88,000.00
Realized gain/loss	-	-	-
Cap stock flows	-	-	-
Net assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Shares outstanding (S/O) change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000
9 a.m. NAV	\$1.0009	\$1.0009	\$1.0009

	Fund	Class 1	Class 2
Assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Appreciation/depreciation	(\$880,000.00)	(\$770,024.17)	(\$109,975.83)
Realized gain/loss	\$1,600,000.00	\$1,400,043.95	\$199,956.05
Cap stock flows	(\$200,000,000.00)	(\$200,000,000.00)	-
Net assets	\$801,600,000.00	\$701,422,019.78	\$100,177,980.22
S/O change	(199,820,161.854)	(199,820,161.854)	-
S/O	800,179,838.146	700,179,838.146	100,000,000.000
Noon NAV	\$1.0018	\$1.0018	\$1.0018

	11/3/15	Fund	Class 1	Class 2
Assets		\$801,600,000.00	\$701,422,019.78	\$100,177,980.22
Appreciation/depreciation		-	-	-
Realized gain/loss		-	-	-
Cap stock flows		-	-	-
Net assets		\$801,600,000.00	\$701,422,019.78	\$100,177,980.22
S/O change		179,515.019	179,515.019	-
S/O		800,359,353.164	700,359,353.164	100,000,000.000
3 p.m. NAV		\$1.0016	\$1.0015	\$1.0018

## 2a-4 Trade Timing

The trade timing worksheet illustrates the effects of recognizing portfolio trades in the period they occur versus the subsequent period. In scenarios 1 and 3, portfolio trades are recognized in the same period they occur, and in scenarios 2 and 4, portfolio trades are recognized in the subsequent period. The 2a-4 trade timing worksheet uses the same assumptions used in the floating NAVs worksheet and adds several more. In particular, in scenarios 3 and 4, the worksheet introduces a large shareholder purchase in Class 2 received by the transfer agent at 11:59 a.m. (processed at the noon NAV) and a purchase of \$700 million face amount security by the portfolio manager at 1:00 p.m. Realized gains are locked in and not available for reallocation in the subsequent periods.

**Scenario 1:** This scenario is the same as scenario 1 on the floating NAV worksheet. Allocations across classes are based on relative net assets. The sale of the \$200 million face amount portfolio security and the related \$1.6 million realized gain are recognized in the period they occur. Realized gains are locked in and not available to be reallocated in subsequent periods.

**Scenario 2:** This scenario is the same as scenario 1 except that the \$200 million face amount portfolio security sale and the related realized gain is recognized on the fund's books in the subsequent period.

**Scenario 3:** This scenario introduces a shareholder purchase order for \$700 million Class 2 shares received by the transfer agent at 11:59 a.m. and a portfolio manager purchase of \$700 million face amount security at 1:00 p.m. The portfolio security is subsequently valued at a 3 basis point discount (to reflect dealer markup on the security purchase), creating unrealized depreciation of \$210,000.

**Scenario 4:** In this scenario, the \$700 million face amount security purchased at 1:00 p.m. is recognized on the fund's books in the subsequent period. In order to calculate the daily dividend rate on the fund's shares, fund accounting may record the \$700 million face amount security purchased at 1:00 p.m. on the fund's books later that day (i.e., after the 3:00 p.m. NAV calculation). Any unrealized depreciation amount (i.e., the \$210,000 dealer markup) would be recognized in the next day 9:00 a.m. NAV calculation.

## Assumptions

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- » 2 share classes
  - » Valuation points: 9 a.m., noon, and 3 p.m.
  - » 90 percent/10 percent asset split between Class 1 and Class 2
  - » Net income is backed out intraday
  - » Income is only distributed on end-of-day shares
  - » No estimated cap stock
  - » Realized gain/loss allocations locked at each NAV
  - » \$200 million redemption in Class 1 received by transfer agent at 10 a.m., received noon NAV
  - » Sale of \$200 million face ABS security; traded in the market around 11 a.m.
    - Sale price: \$100.30
    - 9 a.m. and noon market price: \$99.94
    - Original purchase price: \$99.50
  - » Share class allocation based on prior net assets plus cap stock dollars
  - \* Large cap stock (\$700 million) subscription in Class 2 received by transfer agent at 11:59 a.m.
  - \* Portfolio trades for the \$700 million are completed between noon and 3 p.m.
  - \* New security prices at a 3 basis point discount, reflecting the trading cost/dealer markup

This is a hypothetical document to facilitate discussion of considerations for multiple NAV strikes per day. It is not endorsed by ICI as an all-inclusive, definitive approach for calculating multiple NAVs per day.

**Scenario 1: Portfolio trade in same period it occurs**

Day 1	Fund	Class 1	Class 2
Assets	\$1,000,000,000.00	\$900,000,000.00	\$100,000,000.00
Appreciation/depreciation	\$880,000.00	\$792,000.00	\$88,000.00
Realized gain/loss	-	-	-
Cap stock flows	-	-	-
Net assets	1,000,880,000.00	900,792,000.00	100,088,000.00
Shares outstanding (S/O) change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000
<b>9 a.m.</b>	NAV	\$1.0009	\$1.0009

	Fund	Class 1	Class 2
Assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Appreciation/depreciation	(\$880,000.00)	(\$792,000.00)	(\$88,000.00)
Realized gain/loss	\$1,600,000.00	\$1,440,000.00	\$160,000.00
Cap stock flows	-	-	-
Net assets	\$1,001,600,000.00	\$901,440,000.00	\$100,160,000.00
S/O change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000

<b>Noon</b>	NAV	\$1.0016	\$1.0016
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	Fund	Class 1	Class 2
Assets	\$1,001,600,000.00	\$901,440,000.00	\$100,160,000.00
Appreciation/depreciation	-	-	-
Realized gain/loss	-	-	-
Cap stock flows	(\$200,000,000.00)	(\$200,000,000.00)	-
Net assets	\$801,600,000.00	\$701,440,000.00	\$100,160,000.00
S/O change	(199,680,511.182)	(199,680,511.182)	-
S/O	800,319,488.818	700,319,488.818	100,000,000.000

<b>3 p.m.</b>	NAV	\$1.0016	\$1.0016
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**Scenario 2: Portfolio trade in subsequent period**

Day 1	Fund	Class 1	Class 2
Assets	\$1,000,000,000.00	\$900,000,000.00	\$100,000,000.00
Appreciation/depreciation	\$880,000.00	\$792,000.00	\$88,000.00
Realized gain/loss	-	-	-
Cap stock flows	-	-	-
Net assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Shares outstanding (S/O) change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000
<b>9 a.m.</b>	NAV	\$1.0009	\$1.0009

	Fund	Class 1	Class 2
Assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Appreciation/depreciation	-	-	-
Realized gain/loss	-	-	-
Cap stock flows	-	-	-
Net assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
S/O change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000

<b>Noon</b>	NAV	\$1.0009	\$1.0009
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	Fund	Class 1	Class 2
Assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Appreciation/depreciation	(\$880,000.00)	(\$770,024.17)	(\$109,975.83)
Realized gain/loss	\$1,600,000.00	\$1,400,043.95	\$199,956.05
Cap stock flows	(\$200,000,000.00)	(\$200,000,000.00)	-
Net assets	\$801,600,000.00	\$701,422,019.78	\$100,177,980.22
S/O change	(199,820,161.854)	(199,820,161.854)	-
S/O	800,179,838.146	700,179,838.146	100,000,000.000

<b>3 p.m.</b>	NAV	\$1.0018	\$1.0018
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**Scenario 3: Portfolio trade in same period it occurs  
PLUS large cap stock inflow to a particular class**

Day 1	Fund	Class 1	Class 2
Assets	\$1,000,000,000.00	\$900,000,000.00	\$100,000,000.00
Appreciation/depreciation	\$880,000.00	\$792,000.00	\$88,000.00
Realized gain/loss	-	-	-
Cap stock flows	-	-	-
Net assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Shares outstanding (S/O) change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000
<b>9 a.m.</b>	NAV	\$1.0009	\$1.0009
	<b>Fund</b>	<b>Class 1</b>	<b>Class 2</b>
Assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Appreciation/depreciation	(\$880,000.00)	(\$792,000.00)	(\$88,000.00)
Realized gain/loss	\$1,600,000.00	\$1,440,000.00	\$160,000.00
Cap stock flows	-	-	-
Net assets	\$1,001,600,000.00	\$901,440,000.00	\$100,160,000.00
S/O change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000
<b>Noon</b>	NAV	\$1.0016	\$1.0016
	<b>Fund</b>	<b>Class 1</b>	<b>Class 2</b>
Assets	\$1,001,600,000.00	\$901,440,000.00	\$100,160,000.00
Appreciation/depreciation	(\$210,000.00)	(\$98,096.96)	(\$111,903.04)
Realized gain/loss	-	-	-
Cap stock flows	\$500,000,000.00	(\$200,000,000.00)	\$700,000,000.00
Net assets	\$1,501,390,000.00	\$701,341,903.04	\$800,048,096.96
S/O change	499,201,277.955	(199,680,511.182)	698,881,789.137
S/O	1,499,201,277.955	700,319,488.818	798,881,789.137
<b>3 p.m.</b>	NAV	\$1.0015	\$1.0015

**Scenario 4: Portfolio trade in subsequent period  
PLUS large cap stock inflow to a particular class**

Day 1	Fund	Class 1	Class 2
Assets	\$1,000,000,000.00	\$900,000,000.00	\$100,000,000.00
Appreciation/depreciation	\$880,000.00	\$792,000.00	\$88,000.00
Realized gain/loss	-	-	-
Cap stock flows	-	-	-
Net assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Shares outstanding (S/O) change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000
<b>9 a.m.</b>	NAV	\$1.0009	\$1.0009
	<b>Fund</b>	<b>Class 1</b>	<b>Class 2</b>
Assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Appreciation/depreciation	-	-	-
Realized gain/loss	-	-	-
Cap stock flows	-	-	-
Net assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
S/O change	-	-	-
S/O	1,000,000,000.000	900,000,000.000	100,000,000.000
<b>Noon</b>	NAV	\$1.0009	\$1.0009
	<b>Fund</b>	<b>Class 1</b>	<b>Class 2</b>
Assets	\$1,000,880,000.00	\$900,792,000.00	\$100,088,000.00
Appreciation/depreciation	(\$880,000.00)	(\$410,890.25)	(\$469,109.75)
Realized gain/loss	\$1,600,000.00	\$747,073.18	\$852,926.82
Cap stock flows	\$500,000,000.00	(\$200,000,000.00)	\$700,000,000.00
Net assets	\$1,501,600,000.00	\$701,128,182.93	\$800,471,817.07
S/O change	499,550,404.636	(199,820,161.854)	699,370,566.490
S/O	1,499,550,404.636	700,179,838.146	799,370,566.490
<b>3 p.m.</b>	NAV	\$1.0014	\$1.0014

Note: The portfolio trades, which total \$700 million, are posted by accounting after the 3 p.m. NAV for inclusion in the mil rate calculation. Tomorrow's 9 a.m. NAV will reflect their appreciation/depreciation effect.