



## **Claiming a Fails Charge for a Settlement Fail in U.S. Treasury Securities**

January 5, 2009

During the past several months, transactions in U.S. Treasury securities have exhibited widespread and chronic settlement fails.<sup>1</sup> Fails rose to unprecedented levels and have materially impaired secondary market liquidity. This state of affairs is detrimental to the interests of investors, who buy Treasury securities in part because of their superior liquidity, as well as to the interests of taxpayers, who benefit when the Treasury can issue securities at low interest rates in part because of the liquidity of its securities.

Recently, the Treasury Market Practices Group (“TMPG”), a group of market participants committed to supporting the integrity and efficiency of the market for U.S. Treasury securities, recommended that market participants adopt a new practice whereby a buyer who fails to receive Treasury securities on the originally scheduled settlement date of a transaction can claim a “fails charge” from the failing seller.<sup>2</sup> Adoption of such a practice would supersede

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<sup>1</sup> A settlement fail occurs when securities are not delivered and paid for on the date originally scheduled by a buyer and seller. In most cases, settlement fails are cured by delivery and payment on a later date, but in some cases a fail is cured with an offsetting transaction between the parties to the original transaction (and cash settlement of any price difference).

<sup>2</sup> The TMPG recommendation is posted at <http://www.newyorkfed.org/tmpg/PR081112.pdf>. The original recommendation suggested that the invoice price of a transaction that failed to settle as originally scheduled should be reduced by the amount of the fails charge, but when market participants studied the recommendation further, a consensus emerged that a claims process would be preferable to adjusting the invoice price.

the present market convention that a seller who fails to deliver Treasury securities on a scheduled settlement date can deliver the securities at a later date against payment of the originally specified proceeds and without additional consequences. The imposition of a fails charge would motivate sellers to effect timely settlement and, it is expected, to mitigate the fails problem that has been plaguing the market.

This paper describes the fails charge recommended by the TMPG, explains the economic basis for the charge, and explores some of the practical, operational issues in claiming a fails charge. The last section of the paper briefly outlines a plan for action in 2009.

Following consultation with market participants, the TMPG recommends that fails charges be (1) accrued over the course of a month, (2) submitted by the tenth business day of the following month, and (3) either accepted or rejected by the last business day of the month in which they were submitted. The plan for action includes target dates of:

- May 1, 2009, for commencing accruals of fails charges,
- June 12, 2009, for the first monthly submission of claims, and
- June 30, 2009, for responding to the first monthly submission of claims.

Additionally in 2009, the TMPG will examine the possibility of developing an industry utility for matching claims for fails charges with *ex ante* acceptances submitted by market participants. It is anticipated that preliminary results from that inquiry will be available by mid-year.

## **1. Scope of Affected Settlements**

The TMPG recommendation uses the term “seller” to denote any party who has agreed to deliver Treasury securities, or who has agreed to cause Treasury securities to be delivered, versus payment. A “buyer” is any party who has agreed to make payment, or to cause payment to be made, upon receipt of Treasury securities.

The terms “buyer” and “seller” are purposely evocative of the parties to a conventional cash market purchase and sale. However, an agreement to deliver, and an agreement to pay upon

delivery, can arise from a variety of other transactions in Treasury securities, including, for example:

1. a repurchase agreement to sell, and subsequently repurchase, Treasury securities, including the borrowing of funds on the start leg of the agreement and the return of funds at the conclusion of the agreement, and
2. a securities lending agreement to lend Treasury securities against receipt of collateral (either cash or other securities), including both the start of the loan and the conclusion of the loan.<sup>3</sup>

In a nutshell, the fails charge recommended by the TMPG would apply to any delivery-versus-payment settlement in Treasury securities that failed to settle as originally scheduled, regardless of the transaction that led to the settlement obligation. The TMPG recommendation does not, however, cover “free deliveries,” where a recipient is not obliged to make a payment upon receipt of Treasury securities. (Free deliveries can arise when, for example, an investor has to make a deposit of securities for margin purposes.)

Since this paper is concerned solely with settlements involving Treasury securities, for purposes of expositional simplicity we will hereafter refer to “securities,” rather than to “Treasury securities.”

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<sup>3</sup> If Treasury securities are lent against cash collateral, there will be a delivery-versus-payment settlement at the start of the loan and a delivery-versus-payment settlement at the conclusion of the loan. If Treasury securities are lent against other securities, there will be two delivery-versus-payment settlements at the start of the loan (one for the Treasury securities being lent and the other for the collateral), and two delivery-versus-payment settlements at the conclusion of the loan (one for the Treasury securities being returned and the other for the collateral being returned). At this time, the TMPG fails charge would apply only to settlement fails on the Treasury leg (or legs) of a transaction that involves both Treasury and non-Treasury securities.

## 2. The Fails Charge

Consistent with the best practices recommendation of the TMPG, a buyer who fails to receive securities from a seller on the originally scheduled settlement date of a transaction can submit a claim to the seller for a fails charge based on the duration of the fail.<sup>4</sup>

The fails charge that can be claimed following a failure to receive securities on a given day is computed using the *TMPG fails charge formula*:

$$C = \frac{n}{360} \cdot .01 \cdot \max(3 - R, 0) \cdot P$$

where:

C = claim amount, in dollars,

n = number of calendar days to the following business day, or to the last calendar day of the month, whichever comes first,

R = TMPG reference rate<sup>5</sup> at the close of business on the business day preceding the fail, in percent per annum, and

P = total proceeds due from buyer, in dollars.

Claims will be cumulated over the course of a calendar month and submitted by the tenth business day of the following month. Payment of accepted claims and notice of rejected claims are due by the last business day of the month in which the claims were submitted.

**An Example.** Suppose, for example, a transaction involves total proceeds of P = \$10,100,900.00 and that the buyer fails to receive the securities on a Friday as originally

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<sup>4</sup> As noted below, if a fail continues past the end of a month the buyer can submit a claim for fails through the end of the month.

<sup>5</sup> The current TMPG reference rate is the target federal funds rate specified by the Federal Open Market Committee (if the Committee specifies a target rate) or the lower limit of the target band specified by the FOMC (if the Committee specifies a target band in lieu of a target rate). In the event the FOMC specifies neither a target rate nor a target band, the TMPG will recommend some other similar, readily observable, short-term interest rate.

scheduled. If the TMPG reference rate at the close of business on the previous business day was 1 percent (so  $R = 1$  percent) and if Monday is a good business day (so  $n = 3$  days), the buyer's claim on the seller is:

$$\begin{aligned} C &= \frac{3}{360} \cdot .01 \cdot \max(3 - 1, 0) \cdot 10,100,900.00 \\ &= \frac{3}{360} \cdot .01 \cdot 2 \cdot 10,100,900.00 \\ &= \$1,683.48 \end{aligned}$$

### **3. The Economic Basis for the Fails Charge**

The economic incentive for a seller to deliver securities in settlement of a transaction in Treasury securities is self-interest: Treasury securities settle on a “deliver versus payment” basis, so a seller does not get paid until it makes delivery.<sup>6</sup>

Many market participants, especially securities dealers, regularly and conventionally sell securities that they are not immediately prepared to deliver, just as they regularly and conventionally buy securities for which they are not immediately prepared to pay. In the latter case, they sometimes have to borrow money to complete payment, and in the former case they sometimes have to borrow securities to complete delivery.

Treasury market participants commonly borrow money and securities via repurchase agreements (“repos”). The economic incentive to borrow securities needed to fulfill a delivery obligation is an increasing function of the specials rate on a special collateral reverse repurchase agreement for the securities, i.e., it is an increasing function of the interest that can be earned on the funds lent against a borrowing of the needed securities. (The appendix describes repurchase agreements and reverse repurchase agreements, and distinguishes between general collateral repos and special collateral repos.) However, if the specials rate for a security is zero, a seller is

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<sup>6</sup> There is no similar motivation to make “free” deliveries.

– under present settlement conventions – no better off borrowing the security (and lending money at a zero rate of interest) than failing (and delaying receipt of the sale proceeds). In other words, under present settlement conventions, the economic incentive to borrow securities to effect delivery vanishes when the specials rate for the securities goes to zero.

The specials rate for a security can go to zero under two circumstances: when there is unusually strong demand to borrow the security relative to the supply available for lending, and when the general collateral repo rate is near zero. The former situation prevailed, for example, in May 1985, when there was significant interest to borrow the 9¼ percent Treasury bond of February 15, 2015, and when much of the issue was held by investors who did not typically lend securities, and in the summer of 2003, when there was immense demand to borrow the 3⅝ percent Treasury note of May 15, 2013. In both instances, the specials rates for the securities were pushed to zero and market participants with delivery obligations in the securities lost the economic incentive to borrow the securities to effect delivery. The result was chronic settlement fails in the two issues.

Specials rates can also go to zero when the general collateral repo rate is itself near zero, because the specials rate for a security can not exceed the general collateral rate. (Market participants have no incentive to pay a higher rate of interest to borrow money on a repo requiring delivery of a specific issue than the interest rate on a repo that gives a borrower an option to deliver any of a variety of securities.) In this case, specials rates for all securities will be compressed towards zero and virtually any need to borrow any security to effect delivery will result in a settlement fail.<sup>7</sup>

The TMPG recommendation is designed to give sellers an economic incentive to borrow securities to effect deliveries even when the general collateral repo rate is at or near zero.

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<sup>7</sup> However, it may be that specials rates are generally at, or very near, zero because of a low general collateral rate, but that trading activity is so low that fails are nevertheless immaterial. A specials rate of zero is a necessary, but not a sufficient, condition for chronic settlement fails.

Experience shows that fails have not become widespread and chronic if the general collateral repo rate is above about 3 percent per annum.<sup>8</sup> This suggests that market participants generally act to cure settlement fails reasonably promptly as long as the economic cost of a fail is bounded at not less than about 3 percent. The TMPG recommendation would add an out-of-pocket expense to a settlement fail equal to the amount by which the TMPG reference rate (a rough, but easily observed, proxy for the general collateral repo rate) is less than 3 percent. For example, if the TMPG reference rate is 1 percent, the fails charge would be assessed at a rate of 2 percent. Thus, the total cost to a seller who fails to deliver securities, including both the recommended fails charge as well as foregone interest stemming from the delay in the receipt of the proceeds due from the buyer, would be roughly 3 percent even if the general collateral repo rate was substantially less than 3 percent.

#### **4. Basic Mechanics of Claiming a Fails Charge**

This section examines three representative, but not exhaustive, settings for claiming a fails charge. In each case we assume a dealer is on one side of the transaction; more specifically, and without loss of generality, we assume the buyer is a dealer. The first case assumes the seller is an investor, the second case assumes the seller is an investment manager acting on behalf of an investor, and the third case assumes the seller is another dealer.

It is helpful to begin the discussion with a brief description of settlement fails and fails charges in a stereotypical case that abstracts from the institutional detail that is of primary concern in this section.

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<sup>8</sup> However, as the 1985 episode shows, settlement fails in an individual issue can become chronic even when the general collateral rate is well above 3 percent. The 2003 episode shows that settlement fails need not become widespread even if the general collateral rate is well below 3 percent, but the present situation shows that fails *can* become widespread when the general collateral rate falls to near zero.

**A Simplified, Stereotypical Example of a Settlement Fail and the Claiming of a Fails Charge.** Suppose two market participants agree to a transaction involving Treasury securities that, as shown in panel (a) of Figure 1, requires delivery of the securities versus payment. We assume here that both parties run their own custody and settlement processes and that both have book-entry accounts with the Federal Reserve, so it makes sense to say that the seller itself delivers securities directly to the buyer.

Suppose, however, the seller fails to deliver the securities to the buyer, and that the buyer therefore fails to pay for the securities, on the scheduled settlement date – see panel (b) of Figure 1. In this case the buyer can, consistent with the TMPG practice recommendation, make a claim on the seller for a fails charge – see panel (c) of Figure 1. Upon receipt of the claim, the seller has to decide whether to pay or reject the claim. A seller might reject the claim if, for example, the seller properly tendered the securities on the originally scheduled settlement date but the buyer rejected the tender because it thought, incorrectly, that it had bought different securities.

The foregoing example is useful for establishing a conceptual framework for claiming a fails charge, but it abstracts from several important institutional details. In particular, most market participants use an agent (a custodian bank or a clearing bank) to hold their securities and to make and receive deliveries, and many investors use an agent (an investment manager) to manage their portfolios and make trading decisions. We turn now to consider settlement fails and claims for fails charges in three institutionally richer settings.

**Claiming a Fails Charge Arising from a Transaction between a Dealer and an Investor.** Suppose the seller is an investor, such as a hedge fund, that keeps its securities at a custodian bank, and suppose the buyer is a dealer that keeps its securities at a clearing bank. Suppose also, as illustrated in Figure 2, the investor enters into an agreement to deliver securities to the dealer against payment, but that the securities are not in the custodian’s possession on the scheduled settlement date, perhaps because the securities have failed to come in to the custodian in settlement of an earlier purchase by the investor, or perhaps because the custodian lent the



securities out pursuant to a securities lending agreement with the investor. This would leave the custodian unable to settle the transaction as originally contemplated. Under the TMPG recommendation, the dealer can submit a claim to the investor for a fails charge.

It seems reasonable that the dealer should direct the claim *directly to the investor*. There may be an issue between the investor and the custodian bank as to who should ultimately bear the cost of the claim, but that is for them to resolve between themselves. Additionally, if the settlement fail is the result of a failure to receive securities purchased earlier by the investor, the investor can submit its own claim to the failing seller.

**When the Investor Retains an Investment Manager as Well as a Custodian.** Suppose next that the investor retains an investment manager to manage its portfolio, as well as a custodian. Suppose also, as illustrated in Figure 3, the investment manager enters into an agreement to deliver securities to the dealer against payment, but that the securities are not in the custodian's possession on the scheduled settlement date, so the custodian is unable to settle the transaction as originally contemplated. Under the TMPG practice recommendation, the dealer can submit a claim for a fails charge.

But to whom should the dealer direct the claim? To the investment manager? To the custodian? To the investor?

Since the investment manager and the custodian are no more than agents acting for the investor, it would not be unreasonable if the dealer directed the claim for the fails charge to the investor. However, as a practical matter, the investor is unlikely to be in a position to assess whether the claim should be paid or rejected. In fact, the investor is unlikely to even know that the investment manager and the dealer agreed to the transaction.

It follows that the dealer will have to direct its claim to either the investment manager or the custodian. Each has knowledge relevant to assessing the claim:

- the investment manager should know whether the transaction is a *bona fide* transaction, and

- the custodian should know whether the transaction failed to settle as originally scheduled.

However, each may also lack knowledge of some crucial fact:

- the investment manager may not know that the transaction failed to settle as originally scheduled, and
- the custodian may not know whether a claim is for failure to settle a *bona fide* transaction.

This illustrates an important point: when an investor divides the responsibility for trading and safekeeping its securities between two parties, there is likely to be some division of the information relevant to making and researching claims for fails charges. Implementation of the TMPG recommendation will likely create incentives for the development of new information exchanges among investors, investment managers, and custodians.

On balance, and in light of presently available information, it appears that the most efficient choice will be for the dealer to direct its claim for the fails charge to the party with whom it has the most direct contact: the investment manager. It will then be up to the investment manager to research the validity of the claim, almost certainly with the cooperation of the investor's custodian, and to either approve or challenge the claim.

However, regardless of who receives a claim, the cost of the claim should be borne by the investor. This would parallel the market practice that if a dealer fails to receive securities in settlement of a purchase entered into with an investment manager, the *investor* suffers the loss associated with the delay in the receipt of the proceeds that are not paid by the dealer's clearing bank to the investor's custodian bank on the originally scheduled settlement date.<sup>9</sup>

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<sup>9</sup> However, the investor may have a claim for recovery of its losses from either the investment manager (perhaps for failing to properly and timely instruct the custodian to deliver the securities) or from the custodian (perhaps for failing to act on valid and timely instructions of the investment manager), but that is a matter for the three parties to settle among themselves. Similarly, following payment of a fails charge, an investor may have a claim

**When Both Parties are Dealers.** When both parties to a settlement are dealers, the settlement is likely to be effected through the Government Securities Division of the Fixed Income Clearing Corporation (“FICC”), a subsidiary of the Depository Trust and Clearing Corporation. Transactions clearing through the FICC are not settled directly, but are netted and novated on a daily basis. Dealers with a net delivery obligation in a security on a given day are obliged to deliver the security to the FICC’s clearing bank, and the FICC is obliged to redeliver the security to the clearing bank (or banks) of one or more dealers with a net obligation to receive the security.

Because the interdealer settlement process is tightly controlled and centralized through the FICC, the FICC can readily identify a dealer that fails to deliver securities on a scheduled settlement date and can bill the failing dealer for a fails charge. At the same time, the FICC will know that it, in turn, failed to make a delivery to a dealer with a net obligation to receive (and pay for) the security and the FICC can readily credit that dealer for the fails charge that it owes to the dealer.<sup>10</sup>

## **5. Detailed Mechanics of Claiming a Fails Charge**

This section describes two prospective methods for claiming fails charges arising from transactions between a dealer and either an investor or an investment manager.

**Direct Claims.** The quickest way to get the claims process started will be to rely on the direct submission of a claim by a buyer to a seller. In the case where an investor retains an investment manager, a dealer will submit a claim to the investment manager and vice versa. It

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for recovery of the payment from either the investment manager or the custodian, but that is also a matter for the parties to settle among themselves.

<sup>10</sup> Before such a process can be put in place, the membership of the FICC would have to endorse the TMPG practice recommendation and any related change in the FICC’s rules would require regulatory approval.

will be up to the investment manager to research the validity of a claim and to either accept or reject the claim. If it accepts a claim, it will either advise its principal (the investor) to pay the claim or it will pay itself and then seek reimbursement from its principal. Conversely, if a dealer's clearing bank fails to deliver securities on the originally scheduled settlement date of a purchase negotiated by the dealer with an investment manager, it will be up to the investment manager to submit a claim to the dealer.

The key to the success of such a direct claims process is the amount and quality of information supplied by the party submitting a claim. The information must be sufficiently detailed to allow the recipient to research the claim and assess its validity. Table 1 outlines many of the significant data items that are likely to be required.

**Indirect Claims through an Industry Utility.** The direct claims process described above is may be appropriate if settlement fails are infrequent. However, it may overwhelm both buyers submitting claims and sellers receiving claims if the frequency of settlement fails is elevated. In such cases, processing claims through an industry utility may be more efficient.

An industry utility would support two functionalities: (1) submission of claims for fails charges and (2) submission of *ex ante* acceptances of claims that may be submitted by others. Claims and *ex ante* acceptances submitted to an industry utility would follow essentially the same form as a directly submitted claim. Each would identify a buyer and a seller, the security involved, and the amount of (and details regarding) the fails charge. The utility would match claims with *ex ante* acceptances and inform the respective parties of any matches. After some designated cut-off date, the utility would inform those who submitted claims that were not matched with *ex ante* acceptances that they would have to pursue their claims directly, and it would similarly inform those who submitted *ex ante* acceptances that were not claimed on that no matching claim had been received.

The development of an industry utility elevates the importance of an issue not presented in such compelling form by direct claims. In the case of indirect claims, it is important that

buyers and sellers are uniquely and unambiguously identified. A buyer submitting a claim must describe itself the same way a seller describes the buyer, and a seller submitting an *ex ante* acceptance must describe itself the same way a buyer would describe the seller. This process is complicated by the fact that a dealer may have several different trading desks entering into transactions in the same security with the same counterparty, and by the fact that an investment manager may manage investments for a variety of clients. Further consultation with market participants will be needed to resolve this important issue.

## **6. A Plan for Action**

In view of the likely cost and complexity of developing an industry utility for processing claims for fails charges, it would be expeditious to start with a direct claims process. The TMPG recommends that market participants begin accruing fails charges on May 1, 2009. In view of the TMPG recommendation that claims for fails charges accrued over the course of a calendar month be submitted by the tenth business day of the following month, and that recipients respond by the last business day of the month, this would mean that participants should be prepared to submit claims on or before June 12, 2009, and should be prepared to respond to claims submitted by others by June 30, 2009.

Concurrently, industry representatives should work to develop practical standards for an industry utility for matching claims and *ex ante* acceptances, including the nature of the data necessary and appropriate for identifying the parties to a failed settlement and the details of the originally scheduled settlement.

Also concurrently, the FICC should plan to develop the technical capability to charge its netting members for settlement fails on transactions that pass through its daily nets, and to credit netting members that fail to receive securities in connection with the same transactions. The

FICC should be prepared to introduce fails charges in tandem with the introduction of fails charges in trading between dealers and customers of dealers.<sup>11</sup>

#### **Appendix. Repurchase Agreements**

A repurchase agreement is a sale of securities coupled with an agreement to repurchase the same securities on a later date.

As shown in Figure 4, a dealer can borrow \$10,000,000 overnight from a corporate treasurer at an interest rate of 3 percent per annum by selling Treasury notes valued at \$10,000,000 and simultaneously agreeing to repurchase the same notes the following day for \$10,000,833. The payment from the initial sale is the principal amount of the loan; the excess of the repurchase price over the sale price (\$833) is the interest on the loan. The treasurer is said to enter into a *reverse* repurchase agreement when it undertakes to lend the dealer money on the dealer's repurchase agreement.

Repurchase agreements (“repos”) come in two types: general collateral repos and special collateral repos.

A *general collateral* repo is a repurchase agreement in which the lender of funds is willing to accept any of a variety of Treasury securities as collateral. The lender is concerned primarily with earning interest on its money and having possession of assets than can be sold quickly in the event of a default by the borrower.

A *special collateral* repo is a repurchase agreement in which the lender of funds designates a particular security as the only acceptable collateral. Dealers and others lend money on special collateral repos to borrow securities needed to effect deliveries. The interest rate on a special collateral repo is commonly called a “specials rate.” The owner of a Treasury security that a dealer wants to borrow may not have any particular interest in borrowing money, but can nevertheless be induced to lend the security if it is offered an opportunity to borrow money at a

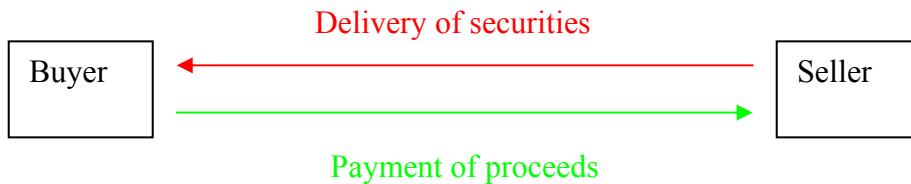
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<sup>11</sup> Pending membership and regulatory approval – see footnote 10 above.

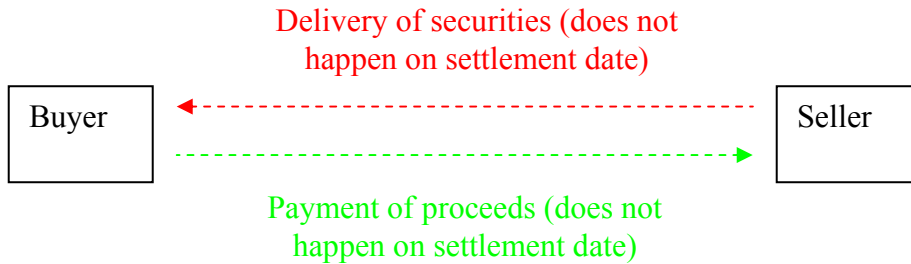
specials rate below the general collateral repo rate. The difference between the general collateral repo rate and the specials rate is sometimes referred to as a “specialness spread.” For example, if the general collateral repo rate is 3 percent and the rate on a special collateral repo is 2 percent, then – as shown in Figure 5 – an investor can earn the 100 basis point specialness spread by borrowing money on the special collateral repo and relending the money on a general collateral repo.

**Figure 1. A Simplified, Stereotypical Example of a Settlement Fail and the Claiming of a Fails Charge**

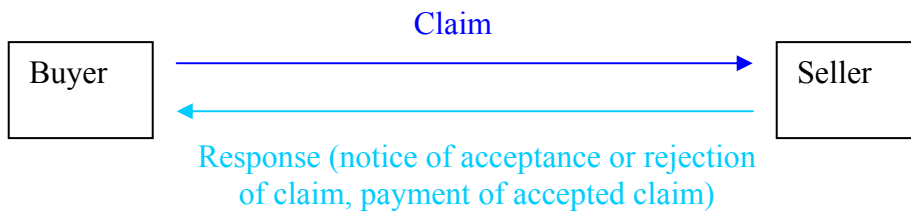
**(a) The Anticipated Settlement**



**(b) The Settlement Fail**

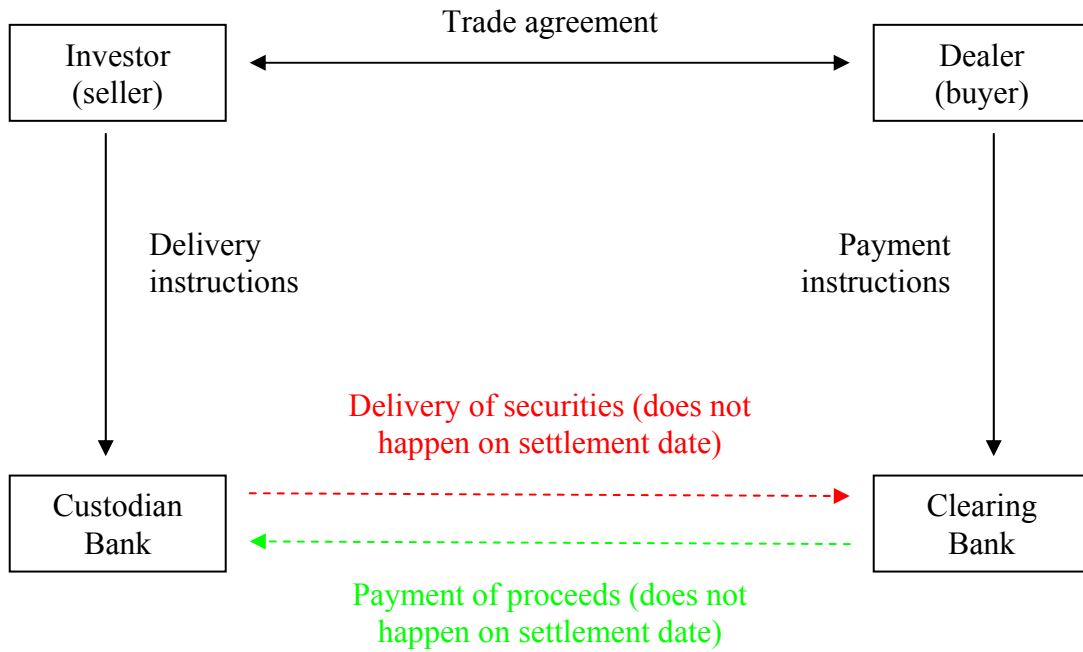


**(c) Claiming the Fails Charge**

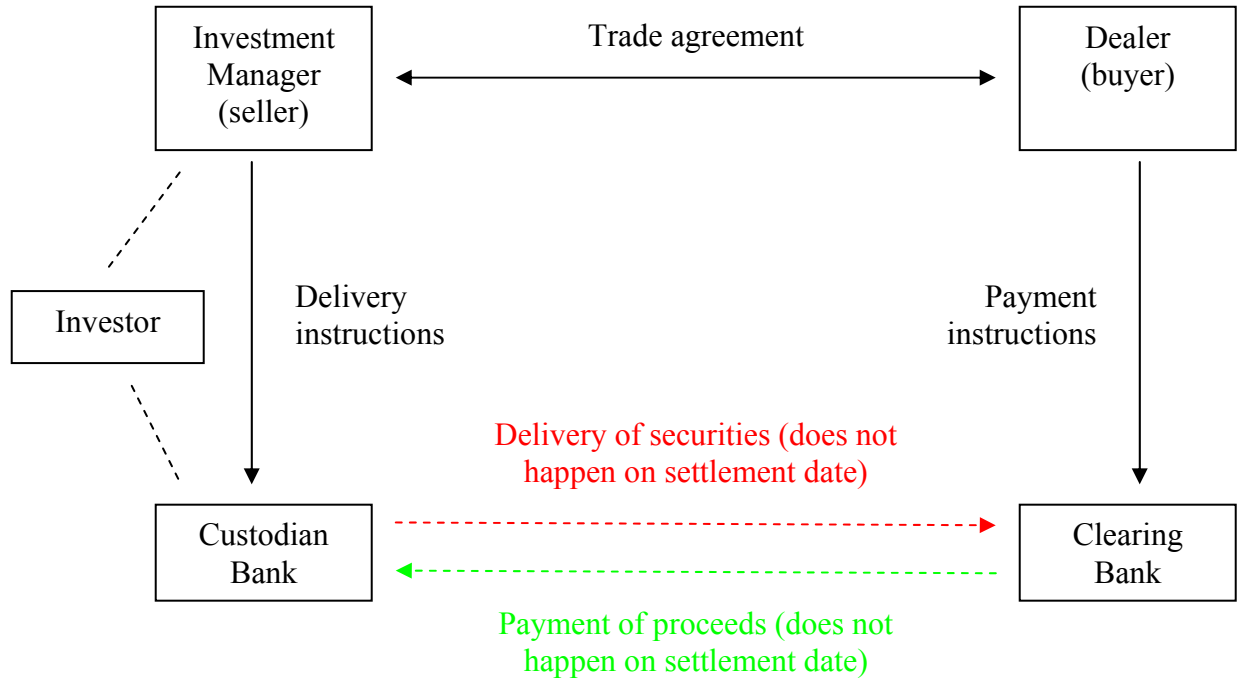




**Figure 2. A Settlement Fail in a Transaction between an Investor and a Dealer**



**Figure 3. A Settlement Fail in a Transaction between an Investment Manager and a Dealer**



**Table 1. Data Items likely to be required for claiming a Settlement Fails Charge**

Information identifying the buyer that failed to receive securities and is submitting the claim:

- name, and
- more detailed information regarding the business division, trading desk, etc. within the buyer that agreed to the purchase. (To be established in further discussions with market participants.)

Information identifying the seller to whom the claim is being submitted:

- name, and
- more detailed information regarding the beneficial owner of the securities sold. (To be established in further discussions with market participants.)

Information identifying the failed settlement:

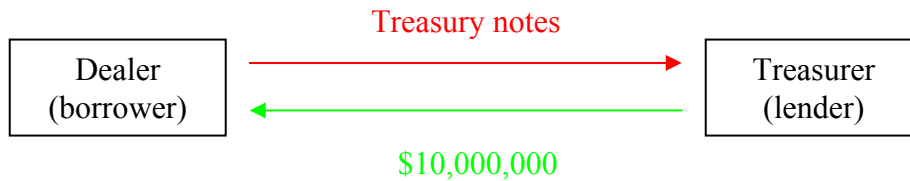
- CUSIP of the security not received,
- type (bill, note, or bond), coupon rate, and maturity date of the security,
- trade date,
- quoted transaction price (discount rate for a bill, clean price for a note or bond),
- par amount,
- total proceeds due upon delivery, and
- originally scheduled settlement date.

Information on amount of the settlement fails charge being claimed:

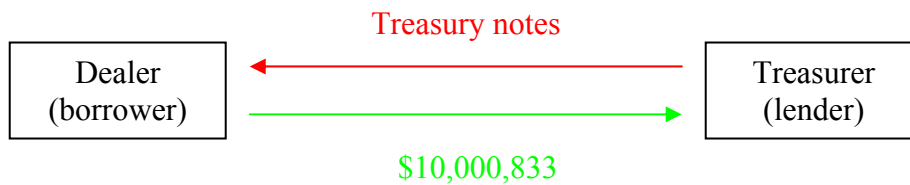
- total amount of fails charge being claimed, and
- table identifying, for each day the securities failed to be received,
  1. date securities failed to be received,
  2. TMPG reference rate for a settlement fail on that date, and
  3. amount of fails charge for a fail (of settlement described above) on that date.

**Figure 4. A Dealer Borrowing \$10 Million from a Corporate Treasurer at an Interest Rate of 3 Percent on an Overnight Repurchase Agreement**

**Starting Leg of the Repurchase Agreement**



**Closing Leg of the Repurchase Agreement (one calendar day after starting leg)**



$$\$10,000,833 = \$10,000,000 + \frac{1}{360} \cdot 3\% \text{ of } \$10,000,000$$

**Figure 5. An Investor Lending Collateral (and Borrowing Money at 2 Percent) on a Special Collateral Repurchase Agreement with Dealer A and Relending the Money to Dealer B on a General Collateral Reverse Repurchase Agreement at 3 Percent**

