

# Borrowed securities: implications for measuring cross-border portfolio investment<sup>1</sup>

Leon Taub<sup>2</sup>

## Section 1: Executive summary

1.1 The borrowing of securities is a very common activity. The Bond Market Association (BMA) estimates that U.S. residents had almost US\$ 8 trillion in securities loans outstanding as of June 2004. Of this amount over US\$ 2 trillion were lent through repurchase agreements with non-U.S. counterparties. An additional US\$ 700 billion were lent through securities lending agreements with non-U.S. counterparties. Securities borrowing activities in Europe are in excess of US\$ 2 trillion and are growing very rapidly.

1.2 Most systems for the reporting of portfolio investment positions, including the system used by the United States, are based on data provided by custodians. In these systems, if a borrowed security is used in a subsequent transaction (either re-lent or on-sold), the reporting of positions is likely to be overstated, unless reporters maintain segregated accounts for borrowed securities or track securities borrowings and the outflows of borrowed securities (securities re-lent or on-sold), as well as securities owned. Solving the problem would require reporters to track and match securities lent or on-sold with securities borrowed, which would probably be a significant burden.

1.3 Securities can be lent in a variety of ways, using many types of institutional arrangements. Some of these arrangements can lead to situations in which one or more of the potential reporters will not know that the security has been borrowed or lent. In some cases, only the end-investor will know of the arrangement. In still other cases, only the custodian will know of the arrangement. Finally, in some cases, it may be that only a third party will know of the arrangement.<sup>3</sup>

1.4 Some potential solutions are described, including end-investor reporting, the treating of repurchase agreements on a legal ownership basis, and the reporting of negative positions when a borrowed security is sold. An additional approach, the reporting of two or more “position types,” is also described. As few as two position types may be needed, since positions owned can, at least in theory, be calculated as:

**Securities Owned = Securities Held or Lent – Securities Borrowed**

The reporting of position types by custodians is shown to eliminate biases in positions estimates due to the borrowing of securities when reporters have knowledge of the borrowing transactions. In addition, it would reduce errors in some, but not all, cases when reporters have incomplete knowledge of the borrowing transactions.

---

<sup>1</sup> Insightful comments and suggestions, and helpful references were provided by many members of the Federal Reserve Bank of New York, the Board of Governors, and the Bureau of Economic Analysis. Particularly valuable comments were received from William Grier, Debra Gruber, Ralph Kozlow, Ken Lamar, and Charles Thomas. I remain, of course, solely responsible for any errors, omissions, or opinions contained herein.

<sup>2</sup> Federal Reserve Bank of New York.

<sup>3</sup> In addition to an absolute “lack of knowledge,” there can be situations in which the arrangement is not coded into a reporter’s system for data reporting, even if someone, somewhere in the organization, can identify the transaction and its nature correctly.

1.5 Each of the possible solutions will have significant advantages and disadvantages, including significant implications for reporting burden and compilation costs. If nothing else, reporters' and compilers' collection systems would have to be changed for any of the solutions to be adopted. The next step is to speak with reporters to determine: (1) the cross-border magnitudes of the various types of borrowing arrangements; (2) current reporting (in practice) under the various types of borrowing arrangements; and (3) the reporting burden involved with alternative reporting options. This information is needed to determine whether the costs of any extra reporting can be justified by the magnitude of the likely improvement in data quality, and, if so, the best approach to implement.

## Section 2: Borrowing situations with full information

### A. Borrowing chains – liabilities

2.1 In the United States, data on cross-border holdings of securities are collected primarily from custodians. U.S. liabilities (foreign residents' holdings of U.S. securities) are reported by the U.S. custodian of the foreign client (either a foreign custodian or a foreign end-investor). U.S. claims (U.S. residents' holdings of foreign securities) are reported by the U.S. custodian dealing with the U.S. end-investor.<sup>4</sup>

2.2 Custodians are instructed to report securities borrowing arrangements (including repurchase agreements which are treated as collateralized borrowing) as if the borrowing had not occurred. For example, the instructions for the most recent U.S. liabilities survey state:

Securities "sold" by foreign residents under repurchase agreements or buy/sell-back agreements, lent under securities lending arrangements, or delivered out as collateral as part of a reverse repurchase agreement or security borrowing agreement **should** be reported as if the securities were continuously held by the foreign resident. That is, the security lender's U.S. custodian should report the U.S. security as if no repurchase agreement or buy/sell-back agreement occurred.

If a security is owned and lent, it clearly should be reported as if it were still held. However, what about a security that has been borrowed and re-lent? The paragraph is ambiguous.

2.3 In the next paragraph, reporters are instructed not to report securities which have been borrowed:

Securities temporarily acquired by foreign residents as collateral under reverse repurchase agreements, securities lending or borrowing arrangements, or buy/sell-back agreements should NOT be reported. That is, the security borrower's U.S. custodian should exclude the U.S. security as if no resale agreement or buy/sell-back agreement occurred.

2.4 Securities that have been borrowed and are held are thus excluded from reporting. But the situation with respect to securities that have been borrowed and re-lent remains ambiguous. It appears that they should also be excluded. However, to do so, reporters would

---

<sup>4</sup> However, if the U.S. custodian uses a U.S. sub-custodian and discloses the identity of the U.S. end-investor to the U.S. sub-custodian, the U.S. sub-custodian reports. In addition: (1) U.S. residents that do not use U.S. custodians are required to report U.S. claims; and (2) U.S. issuers that issue securities directly in foreign markets are required to report U.S. liabilities.

have to ignore the subsequent loan, despite the instructions reproduced in Paragraph 2.2, above.

2.5 In some cases, it may be easy to avoid reporting securities that have been borrowed and re-lent. For example, if all borrowed securities are in a segregated account, it is likely that none of them will be reported, unless the reporter makes a special effort to report lent securities. Certainly, brokers that have a business line engaged in borrowing securities from some clients and lending them to others are likely to report the securities as being held by the original customer and not by themselves. However, if the reporter has a customer with multiple purchase, sale, borrowing and lending transactions flowing through a single account, reporting some lent securities and not others could be a very difficult task, as reporters would have to determine which lent securities had been acquired through a borrowing transaction. (In fact, practical difficulties in reporting may be a reason for the historical ambiguity in the current instructions.)

2.6 **Figure 1**<sup>5</sup> illustrates the importance of the distinction between a borrowed security that is held and a borrowed security that is subject to a subsequent lending transaction. In **Figure 1**, Investor A owns a security, originally held with Custodian A, which is lent to Investor B, who in turn lends it to Investor C. Assuming full knowledge, the custodian for Investor A will report the security (as described in Paragraph 2.2) and the custodian for Investor C will not report the security (as described in Paragraph 2.3). The reporting of Investor A as the owner and Investor C as not owning the security is consistent with the economic positions of the investors and with international reporting standards. (A borrowing chain through repurchase agreements is probably the most common situation. However, the type of borrowing does not matter.)<sup>6</sup>

2.7 But what about Investor B? If all of Investor B's borrowed securities are in a separate account, avoiding the reporting of re-lent securities may be easy. In other cases, the custodian for Investor B may report the lent security (as described in Paragraph 2.2), even though it was originally borrowed. To avoid reporting these "phantom" holdings, the custodian would need to track, for each security lent (including securities delivered out under a repurchase agreement), information about how that security was received. If the custodian does not routinely store that information in a form that it can link to the security lent, it would have to prepare a list of each security lent by each customer and compare it, on a security-by-security basis, to each security borrowed, a task which may be complicated by multiple transactions in multiple lots of the same security.<sup>7</sup>

2.8 For simplicity, all of the links of the chain shown in **Figure 1** involve foreign-resident investors and U.S.-resident custodians. However, the residency of Investor A and of Investor C does not affect the analysis. If Investor A is a U.S. resident, Custodian A would not report, but this is correct, as there is no foreign holding. The residency of Investor C does not matter, as Custodian C does not report in either case. The only residency consideration of importance is if a foreign resident (Investor B) borrows a security using a U.S. resident

---

<sup>5</sup> Note: In **Figure 1** and the subsequent figures, the flows of cash and securities are usually shown to be between the custodians directly. In actual practice, a number of intermediate or additional flows may occur and the investors may use multiple custody institutions (e.g., one for cash and another for securities).

<sup>6</sup> "... a repurchase agreement is treated as a newly created financial instrument ... classified under loans ..." SNA 1993, Paragraph 11.32. See also Repurchase Agreements, securities lending, gold swaps and gold loans: An update (IMF, December 2004, SNA/2.04/26).

<sup>7</sup> A less painful way of achieving the same result would be to subtract all borrowings of that security from all lendings of that security, before reporting the lendings as portfolio positions held. However, under this interpretation of the current instructions, a customer-by-customer tabulation would still be required, since other reportable characteristics, such as the country of the foreign holder, must be preserved.

custodian<sup>8</sup> and then re-lends it. If the custodian for Investor B treats the lent security as if it had been previously purchased (rather than borrowed), over-reporting will result.

## **B. Borrowing chains – claims**

2.9 A similar situation occurs when a U.S. resident borrows and lends a foreign security (see **Figure 2**). With full knowledge, the position of the original holder (Investor A) is reported (correctly). Similarly, the position of the final holder (in this case, Investor C) is not reported (also correctly). However, the custodian for a domestic investor that has borrowed and re-lent the security may report a holding that does not exist, unless the custodian tracks the provenance of each lent security.

## **C. Short sales and negative positions – liabilities**

2.10 In many cases, a borrowed security is subsequently sold. Indeed, the primary motivation for the borrowing of a security may be to sell it (engage in a “short sale”) with the objective of having a negative economic position in the security.

2.11 It should be noted that, in the common use of the term, a “short sale” begins on the trade date. However, international economic account reporting standards call for positions to be reported on a settlement basis.<sup>9</sup> Therefore, for the purposes of this paper, all negative positions must be obtained through the delivery of a borrowed security. Economically, of course, one is “short” during the period between trade and settlement. However, unless international standards change to trade date reporting, it would be inconsistent to include these short positions in national accounts.<sup>10</sup>

2.12 **Figure 3** describes the same situation as **Figure 1**, except that Investor B, instead of lending the security to Investor C, sells it “short” to Investor C. As in **Figure 1**, for simplicity, all custodians are assumed to be U.S. residents and all of the investors are assumed to be foreign residents. The holding of Investor A is reported correctly, as before. The negative holding of Investor B will not be reported. (The U.S. currently does not require the reporting of the negative economic positions that occur when a borrowed security is sold. The recording of short sales is not currently an international reporting standard, but is very likely to be included as a standard in BPM6.)<sup>11</sup> The holding of Investor C is reported, correctly, by Custodian C.

---

<sup>8</sup> If Investor B uses a foreign custodian, the foreign custodian will typically use a U.S. sub-custodian. The complications that result when a U.S. sub-custodian does not have full knowledge of the transactions are discussed in Section 4.

<sup>9</sup> “When all entries relating to a transaction pertain only to the financial amount, they should be recorded when the ownership of the asset is transferred.” SNA 1993, Paragraph 11.48. The reasoning for this is presented in SNA 1993, Paragraph 3.109: “One may wonder why nominal holding gains and losses are not calculated over a period beginning at the moment on which two units agree to a mutual exchange of assets instead of the period which starts with the moment on which the assets are acquired ... The System, however, regards commitments resulting from a contract as contingent until one of the parties has performed its obligation ...”

<sup>10</sup> In addition, there are cases in which negative positions are incurred without the seller obtaining a borrowed security or even the commitment to obtain the borrowed security in order to make delivery. These cases (“naked short sales”) are often illegal and are, in any case, a subset of the short sales for which settlement has not yet been made. Thus, they are not considered further in this paper.

<sup>11</sup> In 2001, the IMF Committee on Balance of Payments Statistics accepted the recommendation of a working group to record, as short positions, securities on-sold that were acquired through repurchase agreements (Recommendation A.(iv)) and through securities lending agreements (Recommendation B.(v)) (BOPCOM-01/16). In 2003, an IMF working group recommended that this treatment be expanded to all short positions (BOPCOM-03/15). The Draft Annotated Outline for Revision of the Balance of Payments Manual, Fifth Edition,

2.13 Note that in this example, Investors A and C are each reported to own a security, but both positions result from a single security. There is a temptation to posit that Investor C does not own a “real” security. However, Investor C will receive all interest or dividends or other attributes of ownership from the issuer (through the issuer’s agents and Investor C’s custodian, of course). Investor C may sell the security without restriction to any U.S. or foreign resident, who will also have full ownership rights.

2.14 It is Investor A that does not have full ownership rights to the security. The only thing that Investor A owns is a promise to be repaid a security from Investor B. Investor A will not receive interest or dividends from the issuer of the security (although Investor A’s agreement with Investor B undoubtedly includes some sort of compensatory payment for the lost relationship with the security’s issuer). Thus, for the accounts to balance, if Investor A is shown as owning the security, Investor B must be shown as having a negative position in that security.

2.15 Note that the type of loan does not matter. In particular, the situation does not change if Investor B acquires the security through a term resale agreement, not currently due. Because repurchase/resale agreements are treated as loans, if an acquirer uses a delivered security to settle a subsequent sale, consistency requires that we treat the investor as having a negative position in the security, even though, legally, the short seller has no obligation to deliver a security until the term of the resale agreement ends.<sup>12</sup>

2.16 As before, the residencies of Investors A and C do not matter. If Investor A were domestic, current data collection would show only the position of the foreign Investor C. The negative position of any foreign Investor B would still be ignored. As a result, a net liability to foreigners would be shown, even though foreigners, on balance, have a net neutral position in the security. The residency of Investor C also does not affect reporting quality – which is fortunate, because Investor C can on-sell the security to any other (domestic or foreign) investor. (If Investor C is a U.S. resident, no foreign position is shown. However, the negative position of any foreign Investor B would still be required in order to avoid overstating the aggregate net liabilities of U.S. residents to foreign residents for the security.)

2.17 Other presentations are possible. Instead of reporting a negative U.S. liability to Investor B, the U.S. could show a claim on Investor B for the U.S. security. However, the showing of a negative liability may be preferable, since Investor B has an obligation to acquire and deliver a security issued by a U.S. resident, which is an obligation quite different in nature from U.S. claims on foreign issuers. Also, the mechanics of data collection and presentation might be more difficult if the position were considered a U.S. claim, as the claims and liabilities survey would have to be integrated and claims would include negative foreign holdings of U.S. securities.

2.18 Some might suggest that Investor B be shown as having a short-term debt to the U.S. Just as Investor B has a claim on Investor A (for cash), Investor A has a short-term claim on Investor B for the security. By convention, this liability is not shown in the accounts, as it is assumed that the security is merely collateral for the cash loan. However, the cash could just as easily be collateral for the loan of the security. Presentation as a short-term debt to Investor A has some logic, but it is a separate question. The question at hand is the nature of Investor B’s obligation relative to the issuer of the security (namely, to pay the

---

states (section 6.11(c)): “short positions occur when a unit sells assets (usually securities) that it does not own ... the short position will be shown as a negative holding.” Since many nations already collect data on at least some negative positions, this statement of intent is very likely to be incorporated into BPM6.

<sup>12</sup> Because market participants may use different terminology (not always considering a sale completed using a security obtained through a resale agreement, particularly a term resale agreement, as a “short sale”), data collection for these types of positions may have to be specified carefully.

obligations of the issuer of the security and to acquire the security before delivery needs to be made). The importance of recording this liability as a security becomes clear when Investor A resides in a country other than that of the issuer, as discussed in Paragraph 2.22, below.

2.19 If the investor borrowing the security to sell it short is a domestic resident (including a U.S. broker/dealer), the situation is different, as a domestic resident would have the liability. **Figure 4** shows a securities flow in which a foreign investor (Investor A) owns 150 units of a security, a U.S. investor (Investor B) sells 100 units (borrowed from Investor A) short, and a foreign investor (Investor C) eventually acquires the security. Under current reporting, the U.S. would show foreign residents (Investors A and C) owning 250 units of the security. Collecting data on foreign residents' negative positions would not have any impact in this situation, because no foreign residents have negative positions in the security. Fortunately, 250 units is, in fact, both the correct number of units held by foreign residents and the correct number of units for which U.S. residents have liabilities.

2.20 **Figure 4** is instructive, because it shows why it is incorrect to calculate foreigners' ownership of a security as a percent of the amount issued and assume that domestic residents own the "remaining percentage". Investors (domestic and foreign) can, and often do, hold aggregate claims for more than 100 percent of the quantity of a security issued. Not all of these positions are effective claims against the issuer, because some of the positions are, in reality, claims against short sellers. The only way to obtain a full picture of the situation would be to collect data on the negative positions of domestic investors as well as those of foreign investors, a very extensive data gathering effort for a country as large as the United States.

#### **D. Short sales and negative positions – claims**

2.21 The situation with respect to claims surveys is analogous to that of liabilities surveys. The collection of data on the negative positions of own-country residents would eliminate the current (at least for the U.S.) overstatement of domestic residents' net claims on that security, but does not eliminate the possibility that, as a result of short sales, the quantity of securities available for economic ownership could (and often will) exceed the quantity issued and outstanding.

2.22 In **Figure 5**, the relationships that exist when a security is borrowed and sold short are explored further. A U.S. resident (Investor C) owns a foreign-issued security, which happened to have been sold short by an investor in Country B. (Investor B obtained the security by borrowing it from Investor A in Country A.) With full knowledge of the transactions: (1) the U.S. will show a claim on Country X (as Investor C owns a security issued by a resident of Country X); (2) Country X will show a liability to the U.S. (because Investor C will have a U.S. custodian, with a sub-custodian in Country X); and (3) Country A will show a claim on Country X (as Investor A in Country A "economically owns," but lent, the security). On a worldwide basis, the accounts will balance only if Country B shows Investor B's negative position against Country X. The "negative liability" of Country B to Country X is required even though the debt is to an investor in Country A.<sup>13</sup> (A short-term loan from Investor A to Investor B is, of course, required to be shown in the short-term debt accounts of both Country A and Country B.)

---

<sup>13</sup> Both the reporting of borrowed positions that are re-lent and the non-reporting of negative positions when securities are on-sold would lead to both worldwide claims and worldwide liabilities being overstated. The extent to which these overstatements offset is unknown.

## E. The relationship of borrowed securities and negative positions

2.23 Every negative position is simply a borrowed position that is neither held nor re-lent. As a result, when calculating an investor's ownership, either of the following equations could be used:

**Securities Owned = Securities Held + Securities Lent – Securities Borrowed**

or

**Securities Owned = Securities Purchased and Held + Securities Purchased and Lent – Securities Borrowed and Sold (Sold Short)**

However, it would be double counting to subtract both borrowed securities and securities "sold short" from positions held.

## Section 3: Selected types of borrowing agreements

3.1 A security can be borrowed in many different ways. Several of these are described below. The agreements differ mainly in the nature of the participants and the way protection, in the case of default, is provided to the security's lender. However, these differences can result in very large differences in legal form and in the knowledge of the transaction by some of the participants. Therefore, the reporting implications of the type of lending agreement used can be significant.

### A. Collateralized lending agreements

3.2 Brokers and other financial intermediaries may allow customers to borrow securities by posting cash or other specific collateral. Brokers and other financial intermediaries also may allow customers to borrow a security based on the customer's margin account balance. These agreements often allow the customer to re-lend or sell the borrowed security to a third party. In each case, the financial intermediary shows a (collateralized) claim on the customer and the customer shows a liability to the financial intermediary.

### B. Use of a security held in a "street name"

3.3 Securities, particularly equity securities in retail customers' accounts, are often held by the broker, acting as a custodian (or by the broker's custodian), in a "street name". When this occurs, the books and records of the issuer, usually as compiled by a central clearing organization (primarily the Depository Trust Clearing Corporation – DTCC – in the United States), show the broker/custodian as the legal owner. The only record of the customer's ownership is on the books and records of the broker/custodian (which are provided to the customer). Often, the customer and the broker agree that the broker or its custodian may borrow the security **without the customer's knowledge or specific consent**.<sup>14</sup> A summary of this type of agreement is shown in Appendix A.<sup>15</sup> (Security for the customer is provided by

---

<sup>14</sup> In fact, the broker/custodian may hold these securities in an undifferentiated account (a "pool"), with brokers' books showing a liability either to the customer or to the pool (and the customer on a pro rata basis). The customer has no knowledge that security was borrowed (and lent or on-sold). The broker/custodian is responsible for providing compensation to the customer for corporate actions (e.g., interest or dividend payments), but as shown in Appendix A, this compensation may not include compensation for less favorable tax treatment (as the broker may have to declare some of the payments to be interest rather than dividends).

<sup>15</sup> See also <http://www.nyse.com/pdfs/MarginCustomersKnowYoursShareholderRights.pdf>

the broker's assets, a government guarantee (SPIC in the U.S.), or perhaps by broker-acquired private insurance.) Once the broker/custodian borrows the security, the broker/custodian can re-lend or on-sell it.

3.4 The same situation may occur in a non-retail setting. "Re-hypothecation" is the use of posted collateral (by the intermediary holding that collateral), either to lend the security or to post it as collateral for the intermediary's own obligations. The U.K. Financial Securities Authority reports: "Re-hypothecation is a key generator of prime brokerage revenue and is often linked to the terms on which other prime brokerage services are offered to the hedge funds."<sup>16</sup>

### C. Reverse transactions

3.5 Reverse transactions (RTs) are transactions, such as repurchase agreements, in which a security is legally sold, but with the seller and buyer both having legal obligations to engage in a subsequent transaction to return that security (or an equivalent security) to the original owner. The second transaction is specified to occur at a defined price, usually based upon the time elapsed between the two transactions. Although the agreement is written as two separate transactions, the economic substance of the agreement is akin to a loan. RTs are treated as loans for current U.S. reporting<sup>17</sup> and for most financial analysis and reporting purposes.<sup>18</sup>

3.6 RTs can be conducted in several different ways.

- a. *Delivery vs. Payment Repurchase Agreements:* A bilateral "delivery vs. payment" or ("DVP") repurchase agreement is shown in **Figure 6**. In **Figure 7**, the example is made a bit more complex, as Investor B uses the security to facilitate a short sale. (If one or more of the investors is also a custodian, the flows can be less complicated, but the relationships are the same.) Note that as long as repurchase agreements are treated as borrowings, the situation is, in theory, exactly analogous to any other borrowing used to facilitate short sale (as shown, for example, in **Figure 3**). However, this type of borrowing can be a particular problem for data compilers because: (1) the custodian for the original owner may or may not know that the security was delivered out as part of a repurchase agreement; and (2) the custodian for the short seller may or may not know that the security was acquired through a repurchase agreement. Hence the custodians for Investors A and B may or may not have a record of the loan or of the short seller's obligation to return the security upon expiration of the repurchase agreement. The BMA estimates that U.S. residents' DVP repurchase agreements with non-U.S. counterparties exceeded US\$ 1 trillion in 2004 (about half the total).

Sometimes, end-investors authorise custodians to initiate and carry out DVP repurchase agreements on their behalf (or on the custodian's behalf in return for

---

<sup>16</sup> Hedge funds: A division of risk and regulatory engagement (Financial Services Authority Discussion Paper 05/4, June 2005, Paragraph 3.48).

<sup>17</sup> Current U.S. treatment (c.f., "Understanding U.S. Cross-Border Securities Data"; Carol Bertaut, William Griever, Ralph Tryon; *Federal Reserve Bulletin*, May 2006, p. A59) and international standards (SNA 1993, Paragraph 11.32) call for RTs that involve cash collateral to be treated as collateralized loans, created through a financial instrument that is distinct from the underlying securities. Securities transferred as a result of RTs without cash collateral are treated, to the extent the source data permit, as if the securities had not been transferred, which is analogous to their treatment as a loan.

<sup>18</sup> "Repurchase agreement: A form of secured, short term borrowing in which a security is sold with a simultaneous agreement to buy it back from the purchaser at a future date. The purchase and sales agreements are simultaneous, but the transactions are not." (American Banker Online, Glossary)

reduced custodial fees). In some of these cases, the end-investor may not “know” of the repurchase agreements, depending upon the nature of the agreement between the end-investor and the custodian, and the characteristics of the custodian’s and end-investor’s record keeping systems. This issue needs to be explored further.

- b. *Securities Lending Agreements:* A securities lending agreement is similar in concept to a DVP repurchase agreement, albeit different in legal form. In addition, either cash or a security can be given to a counterparty to provide collateral for the borrowed security.<sup>19</sup> In the latter case, the title and voting rights for the “collateral” security is usually not transferred, although it could be transferred. Custodians have told us that, in contrast to the situation with DVP repurchase agreements, they are almost always aware of the nature of positions arising from securities lending agreements. We do not know if the end-investors are always aware of the specific securities lent or used as collateral.
- c. *Tri-party Repurchase Agreements:* Repurchase agreements are often carried out on a “tri-party” basis. In this case, a single custodian is responsible for managing the custodial arrangements for both parties to the repurchase agreement, as is shown in **Figure 8**. In a tri-party repurchase agreement, the (single) custodian for both parties will know that the positions result from a repurchase agreement and that the parties have an obligation to engage in the reverse side of the transaction upon expiration of the repurchase agreement. The custodian will also know whether the security acquirer has the security in its account, which is the usual case.<sup>20</sup> We do not know whether end-investors’ reporting systems can identify exactly which securities have been lent under tri-party repurchase agreements. The BMA estimates that U.S. residents engaged in tri-party repurchase agreements with U.S. and foreign residents totaling about US\$ 1.4 trillion in June 2004.
- d. *Central Counterparty (Multilateral Clearing) Repurchase Agreements:* Repurchase agreements can also be carried out using a central counterparty. (The use of a central counterparty is often called “multilateral clearing”.) By far the largest central counterparty in the United States is the Fixed Income Clearing Corporation, Government Securities Division (FICC). Trades between counterparties are brought to the FICC by the counterparties (or by an interdealer broker). The FICC substitutes **two new contracts** from itself, one to each party, for the contract between the two parties (for at least the next day of the contract between the parties). FICC, as the central counterparty, can then engage in a massive netting operation (estimated to be in excess of 80%), reducing costs and counterparty risk. With custodial reporting, the reporting implications for repurchase agreements carried out using a central counterparty are virtually identical to tri-party repurchase agreements, as the central counterparty has full knowledge of the transactions and the securities typically remain overnight with the central counterparty.<sup>21</sup>

---

<sup>19</sup> See [http://www.isla.co.uk/sl\\_fundamentals.asp](http://www.isla.co.uk/sl_fundamentals.asp)

<sup>20</sup> The original owner may have an additional “primary custodian” which delivers the security to the tri-party custodian. Less commonly the acquirer may have an additional custodian that takes delivery of the security. These extra flows may affect the information available to custodial (or end-investor) reporters.

<sup>21</sup> In addition, for the U.S., the central counterparty typically deals almost exclusively with domestic residents.

## Section 4: Limited information situations

### A. Single custodial arrangements

4.1 Conversations with reporters indicate that U.S. custodians generally are aware of the true nature of almost all securities lending agreements, all tri-party repurchase agreements, all multilateral clearing repurchase agreements, most other collateralized loans including all margin account loans, and many DVP repurchase agreements. Given the probable magnitude of these positions, this is a significant conclusion.

4.2 However, for many DVP repurchase agreements – particularly those carried out by an end-investor, by a broker or dealer that the end-investor does not use as a custodian, or through an electronic exchange – there is no reason for the custodian to know that the security was borrowed/lent, as the security could be delivered “free and clear” from the lender’s custodian to the borrower’s custodian. Other situations might lead to reporters not knowing that a transferred security was, in fact, borrowed. In this section, we build upon Section 2 by dropping the assumption that all reporters have full knowledge of the nature of the transaction leading to a holding (or in the case of a lent security, a “non-holding”).

4.3 With custodial reporting, if the custodians do not know that the security was delivered to (acquired through) a borrowing arrangement, a change in reporting to capture overstated liabilities or overstated claims resulting from borrowed securities delivered out will not have an impact, precisely because the custodian does not know that the security was borrowed. Returning to the situations shown in **Figures 1** (liabilities) **and 2** (claims), if Custodian A does not know the security was lent, Investor A’s position will (incorrectly) not be reported. If Custodian C does not know the security was borrowed, Investor C’s position will (again incorrectly) be reported as a holding. If Custodian B is unaware of the loan nature of both transactions, Custodian B will (correctly) not report. In this case, the net holdings are reported correctly (although for liabilities the country of foreign holder is not).

4.4 However, problems in either direction can arise when one reporter knows of the loan and the other believes that it was a complete transfer. For example, if the reporter for foreign-resident Investor A **does not** know that the security was delivered out as part of a borrowing arrangement, but the reporter for foreign-resident Investor C **does** know that the security was delivered in under a borrowing arrangement, there is a problem. Holdings of Investor A are understated, but there is no compensating overstatement of the holdings of Investor C. Similarly, if the knowledge position of the reporters is reversed, securities will be double counted. At this time, the direction of bias due to a lack of knowledge of reporters is not known. Custodian B could also misreport in either direction, if it knows of only one of the lending arrangements.

### B. Multiple U.S. custodians

4.5 The use of multiple financial intermediaries by investors can affect reporting by limiting the knowledge of custodians, even if the security is lent through a process that normally results in adequate knowledge to the reporters. In **Figure 9**, an example is shown in which a foreign resident, Investor B, borrows a U.S. security from Custodian X and orders delivery to its account at Custodian Y. Custodian Y has possession of the security, but does not necessarily know that it was borrowed. Therefore, quite possibly, Custodian Y will report a foreign holding. However, Investor B does not own the security. Thus, the estimate of U.S. liabilities will be biased upward. This bias occurs even though Custodian X knows the security was borrowed and the security has not been used in a subsequent transaction!

### C. Borrowing from a foreign resident

4.6 A possibly common situation is shown in **Figure 10**, in which a foreign Investor B borrows a domestic (U.S.-issued) security from a **foreign** custodian (or investor) and sells it short.<sup>22</sup> In this case, the domestic data collection agency will not be able to collect information on either the borrowing by Investor B or the subsequent sale to Investor C. However, this may not be a serious problem for the calculation of domestic residents' liabilities. Although Investor A owns 150 units, the domestic custodian (Custodian A) sees only the 50 units held by the foreign custodian of Investor A. The other 100 units have been delivered out by the foreign custodian to Investor C (or its custodian). Thus, liabilities will be shown correctly, even though the negative position of Investor B cannot be collected and the holding of Investor A is understated.<sup>23</sup>

4.7 The existence of securities lending activities through foreign custodians, however, does provide another source of error in determining the residence of the holder of a domestic security. If Investor B (in **Figure 10**) were to re-lend (rather than on-sell) the security, the domestic Custodian C might not know that the security was borrowed. In this case, Custodian C will overstate the (non-existent) ownership of Investor C. However, this overstatement will offset the understatement of Investor A's position. (The lack of reporting of any position of Investor B is, in this case, correct.) If Investors A and C reside in different countries, however, the country of ownership will be misstated.

4.8 If a domestic resident borrows a domestic security from a foreign investor or custodian and the U.S. custodian for the foreign investor/custodian is unaware that the security is on loan, the understatement of the foreign position will not be offset and domestic liabilities will be understated. However, this error may be offset by domestic residents' loans to foreign residents held at foreign custodians.

4.9 A claims survey may be less affected by a reporter's lack of information of this type than a liabilities survey. When a resident end-investor uses a foreign custodian directly, the end-investor typically will have reporting responsibilities and a lack of information will generally not be a problem. Even if a security held by a resident end-investor is lent by a foreign custodian without the end-investor's knowledge, the end-investor will report (correctly) the ownership of the security. Similarly, a security borrowed without the end-investor's knowledge will be reported correctly (i.e., not at all). If the resident end-investor used a domestic custodian, lending/borrowing by the foreign sub-custodian will certainly not be a problem, as the domestic custodian will continue to show the investor's ownership of the security. However, end-investor arranged loans will continue to be a problem.

---

<sup>22</sup> For convenience, the security and cash are shown as going directly to Investor C, but the result would be the same if the flows went to a foreign custodian of Investor C.

<sup>23</sup> In this example, a problem may arise if Custodian A is affiliated with Investor A's foreign custodian. In this case, Custodian A may have knowledge of Investor A's actual holdings. Utilization of this knowledge would, paradoxically, lead to an incorrect total for domestic residents' liabilities, unless it were also possible to capture the on-sale of Investor B (which might be possible, if the Custodian is an affiliate of Custodian A and reports by "looking through" its foreign affiliate). Before designing reporting instructions, this issue would need to be investigated.

## Section 5: Possible solutions

### A. End-investor reporting

5.1 The reporting of positions by end-investors, rather than by custodians, has been proposed as at least a partial solution to the problems described above.<sup>24</sup> Typically end-investors will know what securities they own. In some cases (e.g., margin loans and indemnified custodial lending arrangements), end-investors may not know the true status of every security. However, even this is not a serious problem. If a custodian of a domestic end-investor lends a foreign security to another person without the end-investor's knowledge, the end-investor will report (correctly) the ownership of the security. Similarly, an end-investor borrower of a security will either know the security was borrowed or will not know of its possession of the security, leading to correct reporting in either case.

5.2 Unfortunately, the direct collection of liabilities data from end-investors is impossible, as these investors, by definition, reside outside the legal jurisdiction of the collection agency. One could estimate foreign holdings of domestic securities by obtaining information on the total amount of securities issued (from issuers or a central securities database) and information collected on the amount held by resident investors (from the end-investors), and subtracting. However, when the volume of securities issued and the quantity of domestic securities held by domestic investors is large (relative to the amounts held by foreign investors), this procedure will be extremely imprecise (as a small number is being estimated from the difference of two large numbers).<sup>25</sup>

5.3 Of course, domestic end-investors would have to be instructed to report short positions (positions borrowed and on-sold), as domestic short positions in domestic securities would need to be added to the amount issued before subtracting domestic holdings, in order to calculate total domestic liabilities to foreign residents. (Foreign short positions could not be gathered, but this defect would affect only the estimate of gross, not net, liabilities). (In addition, domestic end-investors would have to be careful to avoid reporting domestic securities borrowed and re-lent.)

5.4 For an economy with a large number of securities issuers, securities issued, short positions and end-investors, both the reporting burden and the cost to the compilation agency of calculation via subtraction make the procedure very difficult, if not impractical. Also, the process of estimation via subtraction can result in the loss of some valuable ancillary information. For example, U.S. liabilities are currently reported by the type of foreign holder (official vs. other) and by the country of holder. Although this information is known to be extremely imprecise (and biased toward private custodial centers), judging from the interest in these data, they are still felt to be useful for economic analysis.

5.5 For a claims survey, direct end-investor reporting is possible. If end-investor reporting of claims is chosen as the means to ameliorate the issue raised by incomplete knowledge by custodians, the end-investors would have to exclude all borrowed securities and to report their "net economic positions," showing a negative quantity for any securities borrowed and on-sold.

---

<sup>24</sup> "In principle, end-investors may provide the compiler with separate information on their repo-type transactions. Thus, the potential distortions these deals could cause to the assessment of portfolio investment mainly affect indirect reporting systems based on custodians ..." ECB, Task force on portfolio investment collection systems, June 2002, Paragraph 143.

<sup>25</sup> Even if foreign investors hold large amounts of domestic securities, the estimation of liabilities through end-investor reporting and subtraction could be open to large errors for some securities types. For example, if foreigners hold a large percentage of government-issued securities, but a small percentage of corporate securities, the calculation of foreign holdings via subtraction would yield a very imprecise number for corporate securities.

5.6 Unfortunately, for large countries, which have a large number of end-investors holding foreign securities, the reporting burden, cost, and inherent imprecision associated with surveying numerous, relatively small end-investors makes this procedure both expensive and problematic. In addition, when end-investors have multiple accounts with both positive and negative positions, the reporting burden might be particularly high. End-investors that often do not have sophisticated information technology systems, might simply subcontract the effort to their administrative agents (who might or might not be custodians), resulting in an inefficient, complex process that accomplished little, in terms of obtaining true “end-investor” reporting.

## **B. Reporting repurchase agreements on a legal ownership basis**

5.7 Much of the problem can be “defined away”. A large portion of securities borrowing transactions are in the form of repurchase agreements. If the completed leg of each of these transactions were treated in accordance with the corresponding legal structure, each security “delivered in” would be treated just like any other purchased security; each security “delivered out” would be treated like any other sold security. A short sales facilitated by acquiring securities through a repurchase agreement would no longer be considered a negative position.

5.8 If repurchase agreements were treated in accordance with their legal form, reporting burden would be reduced greatly. Firstly, the amount of borrowings would be reduced dramatically, by definition. For example, if the “borrowing chain” example shown in **Figure 1**, were accomplished through repurchase agreements and if each inward delivery were treated as a purchase and each outward delivery as a sale, there would be no borrowing at all. Custodians A and B would have nothing to report and there would be no overstatement of U.S. residents’ liabilities. Also, there would be no need for reporters to perform special scans on repurchase agreements delivered or repurchase agreements received. Custodians would merely have to report the amounts actually held for foreign residents.

5.9 Secondly, many of the reporting problems relating to the different and sometimes inconsistent states of knowledge of the various financial intermediaries acting as agents for lenders and borrowers result from the conflict between the legal ownership of securities subject to repurchase agreements and the desired treatment of repurchase agreements based upon economic ownership. If the reporting of repurchase agreements were on a legal ownership basis, these problems would disappear. Each custodian knows and can report exactly how many units of each security it is holding for each investor.

5.10 Arguably, the current treatment of repurchase agreements is a historical artifact. When it was first decided to treat repurchase agreements as collateralized loans, repurchase agreements were very different entities. As stated in the BOPCOM 01/16 discussion, justifying the treating of repurchase agreements as loans:

The securities often do not change hands, and the buyer does not have the right to sell them. So even from a legal sense, it is questionable whether or not a change of ownership occurs. As a result, in this Manual (and in the SNA and IMF money and banking statistics), a repo is treated as a newly created financial asset that is a collateralized loan rather than an asset related to the underlying securities used as collateral.<sup>26</sup>

---

<sup>26</sup> BOPCOM 01/16, Paragraph 31.

Also, there is precedent to favor legal form over economic substance. As noted earlier, securities positions are calculated on a settlement date basis, even though the economic substance is transferred on the trade date.

5.11 Transactions facilitated by other types of borrowing arrangements would still be a problem. However, this problem would be much smaller for debt securities (since most debt security borrowings are probably through repurchase agreements). In addition, debt securities borrowed through most other mechanisms (e.g., securities lending agreements) might be relatively easily reportable.

5.12 For equity securities, the use of repurchase agreements may be less common. Fortunately, the problems caused by securities borrowing may be less serious for equities than for debt, both because total loans of equities are likely to be a lower proportion of total positions than total loans of debt securities and because borrowing transactions through securities lending agreements and margin accounts may be more easily reportable. Possibly, data could be collected on equity securities sold short, but this would partially overlap with equity securities borrowed from margin accounts and it would be difficult or impossible to identify the amount of overlap. An alternative possibility would be to use the procedure described in Section C or D below for equity securities, only.

5.13 Perhaps the most serious disadvantage of moving to legal basis reporting of repurchase agreements is that it would result in not collecting data of significant interest to analysts and policymakers: (1) foreigners' economic interests in domestic securities; and (2) domestic residents' liabilities to foreigners, by type of position. Whenever two entities are between "legs" of a repurchase agreement, the calculation of legal basis ownership will attribute the holding of the security (often a very long-term or even equity security) to an investor that only has a short-term (often overnight) position. If the investor subsequently sold the position, legal ownership reporting would result in showing the investor (with very real net liabilities due to its economic short position) as having a neutral position. Similarly, the original investor, which has an economic position in the security, will be treated as not owning the security.

5.14 In addition, if each "leg" of the agreement is treated as an independent contract – which is the essence of legal ownership reporting – it would be inconsistent to show the repurchase agreement as a collateralized loan in the accounts. Thus, loan balances would also be misstated. These problems arise because the parties to the repurchase agreement have agreed not only to engage in a sale, but to a subsequent transaction. If the subsequent transaction were regarded as a contingent arrangement (similar to a trade prior to the settlement date), the economic effect of the arrangement should be ignored. If the subsequent transaction were treated as a futures transaction, a complete, additional data gathering effort would be required, with all of the attendant burden and costs.

5.15 Another disadvantage of treating repurchase agreements on a legal basis is that it puts the accounts further down a "slippery slope" away from economic reality. If repurchase agreements are treated as a sale and purchase, why not treat securities lending agreements (which are a common method of lending equities) in a similar manner? Otherwise, two essentially identical (in an economic sense) transactions would be treated differently. (A securities lending agreement is functionally equivalent to two repurchase agreements, with the cash payment for each agreement matched, i.e. equal and offsetting – a common financial industry practice.)

5.16 In addition, the transition costs of moving to legal basis reporting would be significant for reporters, data compilers, and users. For example, legal basis reporting would result in inconsistencies between historical data and the data collected under the new framework.

5.17 Also, it should be noted that the treatment of repurchase agreements on a legal basis may be inconsistent with end-investor reporting. Earlier it was noted that end-investors might subcontract repurchase transactions to their custodian or to a third party. If this is

done, they may not have accurate records of repurchase agreements on the reporting data in an easily accessible form. If they are to be treated as **not** owning securities that they have lent under a repurchase agreement, end-investors may not be able to report properly without excessive burden.

5.18 It has been argued that treating repurchase agreements on a legal ownership basis would move data collection closer to a goal of “one security issued; one holder reported”. While this is correct, it is far from clear that this is a desirable goal. As we have seen, market participants can, and often do, hold more securities than have been issued (because some market participants have negative positions in those securities). Therefore, achieving this goal by treating repurchase agreements according to their legal form would move the presentation of the International Investment Position away from economic reality, both in terms of measuring the economic burdens of cross-border liabilities (and the economic benefits of cross-border claims) and in terms of measuring the market, credit, and other risks faced by market participants.

### **C. Reporting negative positions**

5.19 The reporting of negative positions is a relatively inexpensive way to eliminate the double counting that would otherwise result from borrowed securities that have been on-sold. Thus, it could be considered as a partial solution to the problem. However, the recording of negative positions does not resolve the issues associated with borrowing chains. Also, as described in Section 4, limited information situations may reduce the effectiveness of this approach. For example, it may not be easy or even possible for financial intermediaries to identify negative positions that have been facilitated by repurchase agreements (and possibly some other forms of RTs). For debt securities, where the use of repurchase agreements is very common, the problem may be a fatal one for this approach. However, for equity securities, the recording of negative positions may be a useful step, if a more comprehensive solution to the problems raised in this paper is not feasible on a cost/benefit basis.

5.20 In considering the recording of negative positions, it is important to recall that the recording of negative positions is a partial substitute for the recording of borrowings, because negative positions arise from selling a borrowed security. As explained in Paragraph 2.23, if one captures the negative position, it would be “double counting” to capture the borrowings and subtract both borrowings and negative positions from aggregate positions held or lent.

### **D. Collection of data on borrowings and loans – a simple approach**

5.21 In terms of obtaining an accurate measure of net positions, the current system has both: (1) a theoretical issue (that securities borrowed and on-sold are not reported); and (2) a practical issue (that some securities which are borrowed and lent are likely to be reported incorrectly, a situation that may be difficult or impossible for reporters to remedy).

5.22 In **Table 1**, three data collection options are shown. In the first column, the current U.S. data collection system is described. The second column shows how that system would be modified if negative positions were to be collected, in line with likely changes to international standards. This approach eliminates the theoretical issue (although possibly not completely, as a security borrowed under a repurchase agreement and then sold may not be able to be captured as a “negative position”), but not the practical issue. In the third column, an alternative approach is shown: collecting data on all securities held or lent and, separately, data on all securities borrowed. This approach would eliminate the theoretical problem and ameliorate much of the practical problem. With these two position types there would be no need to report negative positions, as net positions could be calculated directly from the collected data, as:

**Net Positions (Securities Owned) = Securities Held or Lent – Securities Borrowed**

Further, this would be accomplished without a need for reporters to track the provenance of individual securities (as they would have to do if they tried to report securities lent excluding the ones that had been borrowed, as the current instructions could be interpreted to require).

Table 1  
Simple system for collecting data on position types

Current data collection	Data collection with negative positions reported	Data collection with borrowed positions reported
A mix of: (a) securities held (but not borrowed) plus securities lent; and (b) securities held or lent (but not borrowed)	A mix of: (a) securities held (but not borrowed) plus securities lent; and (b) securities held or lent (but not borrowed)	Securities held or lent
No other reporting	Negative positions (positions borrowed and sold)	Securities borrowed

Source: compiled by author.

5.23 In theory, the two position types need not be reported separately, as “securities borrowed” could be subtracted from securities held or lent by reporters. (Of course, negative positions would sometimes be reported.) However, in order to maintain data quality, and also to provide useful information on the borrowing of securities, it might be useful to ask for the two position types to be reported separately, with the subtraction performed by the data compiler.

5.24 With full knowledge, the above calculation will provide an accurate measure of net positions owned. For example, in the borrowing chains situation, as shown in **Figures 1 and 2**, Custodian A would report Investor A’s loaned security, as before. Custodian B would report both a borrowing and a loan to Investor B, correctly showing a net zero position. Custodian C would report both a holding and a borrowing for Investor C, correctly showing a net zero position. With full reporter knowledge, the net positions arising from short sales of borrowed securities would also be captured correctly. In **Figure 3**, Custodian B would report a borrowing only (effectively showing – correctly – a negative position), and Custodians A and C would correctly show a positive position.

5.25 Even in some limited information situations, the reporting of two position types would eliminate some biases in the collection of positions data. For example, in the multiple custodian situation shown in **Figure 9**, it will be beneficial for the custodian acquiring the security and delivering it out (Custodian X) to report a negative position for Investor B, **even though there is no subsequent loan or on-sale**. Custodian Y can then safely report the security as being held for Investor B, without worrying about how it was acquired. The result will be a net zero position for Investor B’s country, exactly the result desired. Thus, it appears that collecting data on borrowings may ameliorate some of the problems in data collection that arise due to the use of multiple financial intermediaries, even without the complications caused by borrowing chains or short sales.<sup>27</sup>

<sup>27</sup> It could be argued that this bias is not serious, because it is offset by a downward bias that occurs when a foreign resident lends a security. However, a net bias toward the overestimation of domestic liabilities is likely for the U.S. U.S. liabilities due to repurchase agreements are over US\$ 850 billion, while U.S. claims due to resale agreements are only about US\$ 520 billion. Also, it is likely to be more common for investors to use multiple intermediaries when acquiring a security (because the investor has an asset to protect) than when the

5.26 In other limited information situations, this approach of offsetting calculations will not work as well. For example, if Custodian Y is aware of the borrowing, the reporting of a negative position by Custodian X will bias the estimate of U.S. liabilities downward unless Custodian Y can program its system to ignore that knowledge. Given the multiplicity of custodial relationships, the ability of reporters to identify alternative situations and resolve them with unique reporting needs to be investigated further.

5.27 In the area of single custodian arrangements, a lack of knowledge of the borrowing remains a problem. For example, in **Figure 1**, with limited information, one or more custodians will not be able to report correctly. In the best case, Investor A's U.S. custodian will (incorrectly) fail to report Investor A's holding, but the units acquired by Investor B will not be reported either, resulting in offsetting errors. However, the proposed reporting of the negative positions of Investor B could worsen the situation, if, for example, the custodian for Investor B knows of the borrowing but the custodian for Investor A does not. Fortunately, this may not be a common situation, as it requires a foreign resident<sup>28</sup> to lend U.S. securities through a U.S. custodian, without the custodian's knowledge, to a second foreign resident whose custodian does know of the borrowing.

5.28 This solution would also provide information on the extent to which domestic securities are borrowed by foreign residents and foreign securities are borrowed by domestic residents, information which would be useful for policy analysis and for data compilation and verification. A comparison of positions held and positions borrowed might also provide an indication of short sale activity. (However this would be, at best, a minimum indication, as the positions of multiple end-investors will be aggregated. By contrast, the direct reporting of negative positions would provide clear information on short sales.)

5.29 The solution is not, however, costless. Reporters would have to report some securities twice. This would be a particular burden for reporters (e.g., brokers) that may have segregated accounts for securities borrowed and re-lent. (Currently, these securities need not be reported at all.) The extra reporting would be a particular burden for liabilities surveys (at least for the United States), which already require each security to be reported across a geographic (country for the U.S.) distribution and a holder-type distribution. Some, but not all, of the extra reporting burden could be eliminated by providing an exemption from reporting for securities that are in segregated accounts and are known to be borrowed and re-lent.

## **E. Collection of data on borrowings and loans – More complex approaches**

5.30 If the possibility of expanding the international investment surveys to cover position types is considered, it may make sense to cover more than two position types, particularly for claims surveys. For example, a system with three "position types" for each security could be defined as follows:

- *Securities held* – securities held in custody
- *Securities lent* – securities due to be returned under any type of lending agreement (including a reverse transaction)
- *Securities borrowed* – securities obtained through any type of borrowing agreement (including a reverse transaction)

Positions owned by residents and by non-residents can then each be calculated as:

---

investor lends the security. Finally, when the investor is lending the security and multiple intermediaries are used, it may be possible to obtain correct reporting from the third party lender.

<sup>28</sup> If Investor A were a U.S. resident, Custodian A would not be reporting in either case.

## **Securities Owned = Securities Held + Securities Lent – Securities Borrowed**

5.31 Under this scheme, reporters would have to identify securities lent, a category of securities that is now not reported. Since there are many types of lending arrangements and several involve a large amount of securities, the burden may be significant. Compilation costs will also be greater, as the data for the three types of positions will have to be collected, reported separately (at a minimum for internal review purposes), and combined. However, this would provide clear information on securities borrowing and lending.

5.32 Many other frameworks could also be considered. For example, there is a great deal of analytic interest in repurchase agreements and other reverse transactions, as we have very little information on the extent to which the securities involved in these transactions are reported correctly. Also, some people would like to know how positions would look if repurchase agreements (or all reverse transactions) were treated on a legal ownership basis. Therefore, it might make sense to consider these positions separately. The following scheme describes four types of positions:

- Securities held or lent not using an RT
- Securities delivered out under an RT
- Securities received under an RT
- Securities borrowed not using an RT

5.33 If these positions were collected on a security-by-security basis, with an indicator for each position type, positions by security could be calculated as:

### **Securities held (or lent not using an RT) + Securities delivered out under an RT – Securities received under an RT – Securities borrowed not using an RT**

This calculation would provide, to the extent possible, a good estimate of positions on an economic basis. Positions with RTs on a legal ownership basis could be calculated as:

### **Securities held (or lent not using an RT) + Securities received under an RT – Securities borrowed not using an RT**

5.34 The reporting burden under this framework would be significantly greater than at present or under the two- or three-position-type systems described above. However, the additional burden might not be too great, as reporters would probably be able to distinguish reverse transactions from other types of borrowing arrangements fairly easily.

## **Section 6: Next steps**

### **A. Seriousness of the problem**

6.1 The first step is to identify the significance of the issues. At this point, it is known that borrowings are extremely significant. However, more information is needed on the borrowing mechanisms used, the likely counterparties and custodians in each case,<sup>29</sup> and the magnitude of cross-border borrowing/lending positions. Multi-national financial institutions clearly engage in large amounts of these activities. However, the term “foreign” in trade reports is often on a nationality rather than a locational basis. For example, if a foreign institution with a U.S. presence borrows a U.S. security, the borrowing may be housed in the

---

<sup>29</sup> For example, margin account collateralized borrowing may be exclusively through brokerage accounts. In this case, the broker is likely to always be the borrower and probably has full information on the transactions. However, the common mechanisms for the broker’s offsetting transactions may vary.

U.S. branch or subsidiary, resulting in no cross-border impact on securities holdings (although there could be an intra-company loan to fund the operation).

6.2 The extent to which borrowed securities are subject to subsequent transactions must also be determined. We know that, in many cases (particularly for equity securities and debt securities with a premium borrowing rate), the primary purpose in borrowing a security is to be able to re-lend or on-sell it. However, these cases may only be the “tip of the iceberg”. Also, information is needed on the extent to which the use of multiple custodians is leading to excess reporting.

## **B. Current reporting practices**

6.3 Additional information is also needed on current reporting practices. For example, more information is needed on how reporters currently treat securities that have been borrowed and: (a) held; (b) re-lent; and (c) on-sold. For example, are borrowed securities under the various types of arrangements in segregated accounts? Since the answer may depend upon the type of security and the type of borrowing, this information will also have to be gathered for each major security type and each major borrowing mechanism. (To answer these questions, it may be necessary to gather information from large end-investors as well as custodians.) In addition, other information about specific types of borrowing arrangements needs to be gathered/confirmed. For example, when securities are borrowed from a “pool,” can the loan be attributed to specific customers?

## **C. Ability to obtain the data**

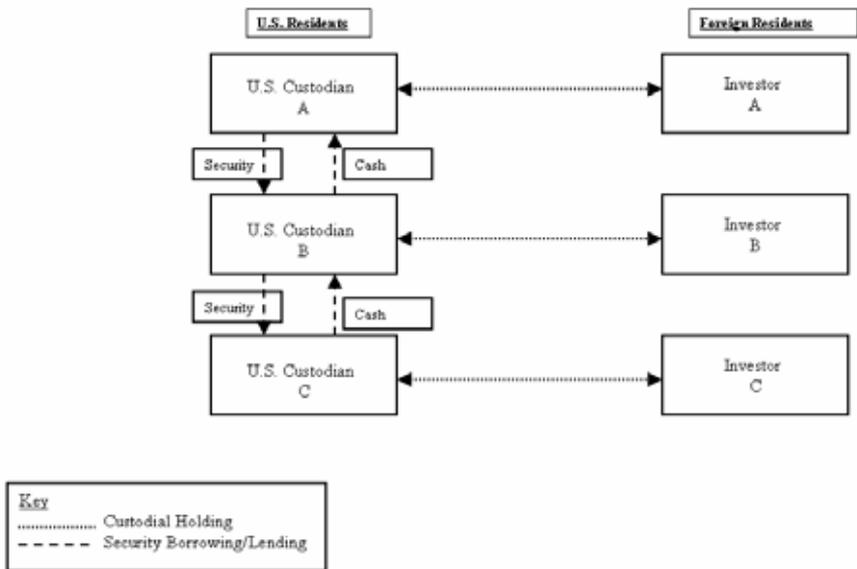
6.4 The ability of reporters to provide information for each of the proposed solutions that are being considered must also be investigated, in order to learn if reporters will have adequate information to substantially reduce current biases resulting from securities borrowing activities. For example, for each type of borrowing arrangement, are borrowed securities and lent securities able to be identified by custodians? How easy would it be to report negative positions, including negative positions that result from the various types of reverse transactions? Do the answers vary by type of security?

## **Appendix A: Summary of selected typical margin account terms**

**XXX can loan securities held in your margin account that collateralize your margin borrowing.** In connection with the extension or maintenance of margin credit, XXX may loan securities in your margin account to itself or to others. As a result of these loans, you may not be entitled to receive certain benefits of a securities owner, such as the ability to exercise voting rights and/or receive interest, dividends, and/or other distributions with respect to the securities lent. While a security in your account is lent, you may only be allocated and receive substitute payments in lieu of such interest, dividends, and/or other distributions. Substitute payments may not be afforded the same tax treatment as actual interest, dividends, and/or other distributions, and you may incur additional tax liability for substitute payments that you receive. XXX may allocate substitute payments in any manner permitted by law, rule, or regulation, including, but not limited to, by means of a lottery allocation method. You are not entitled to any compensation in connection with securities lent from your account or for additional taxes you may be required to pay as a result of any tax treatment differential between substitute payments and actual interest, dividends, and/or other distributions.

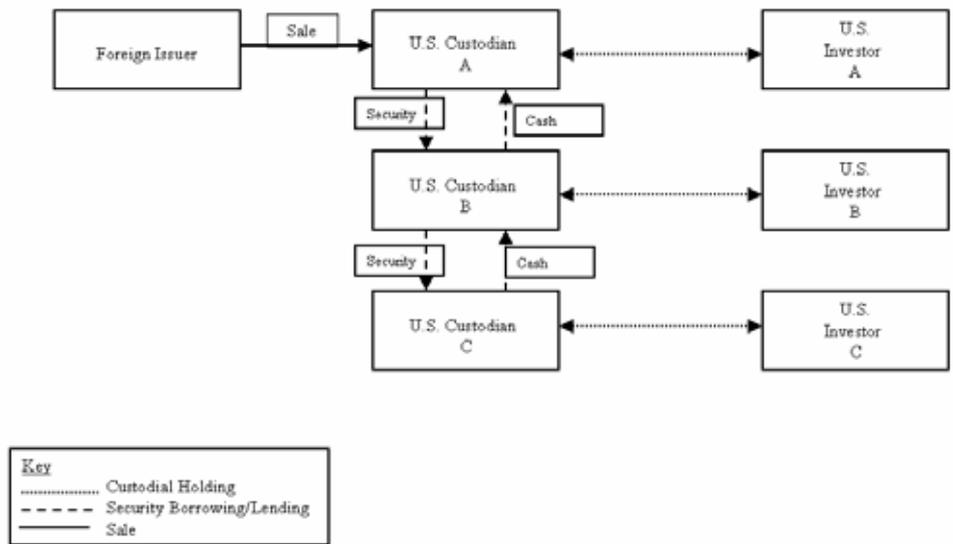
## Appendix B: Figures

**Figure 1**  
**A Foreign Resident Borrows and Re-Lends a U.S. Security**  
(All Custodians are U.S. Residents and All End Investors are Foreign Residents)



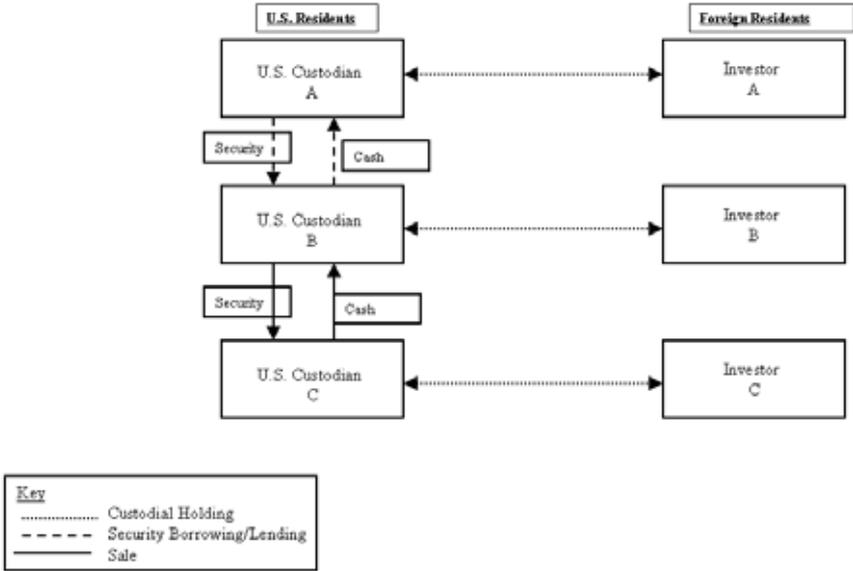
Source: Compiled by author.

**Figure 2**  
**A U.S. Resident Borrows and Re-Lends a Foreign Security**



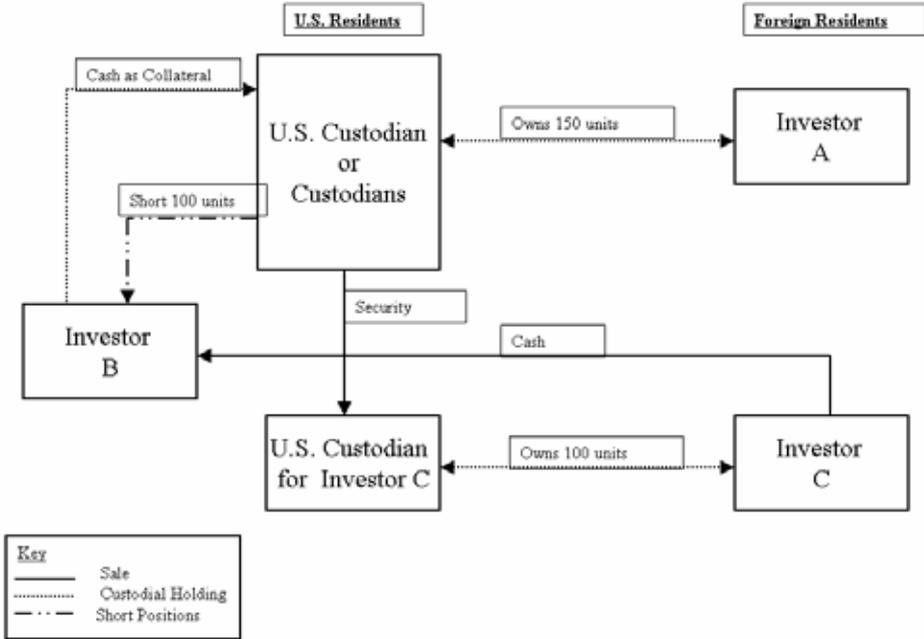
Source: Compiled by author.

**Figure 3**  
**A Foreign Resident Borrows and Sells “Short” a U.S. Security**  
 (All Custodians are U.S. Residents and All End Investors are Foreign Residents)



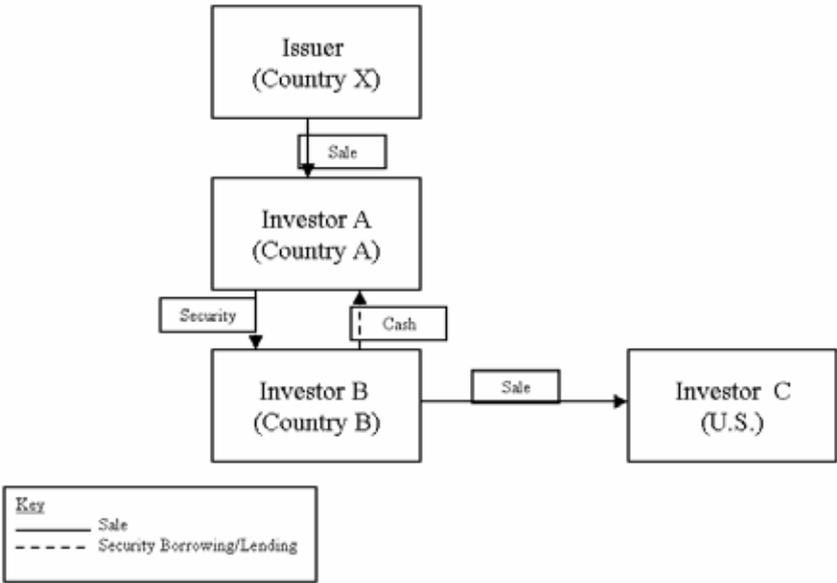
Source: Compiled by author.

**Figure 4**  
**A Short Sale of a U.S. Security by a U.S. Resident**



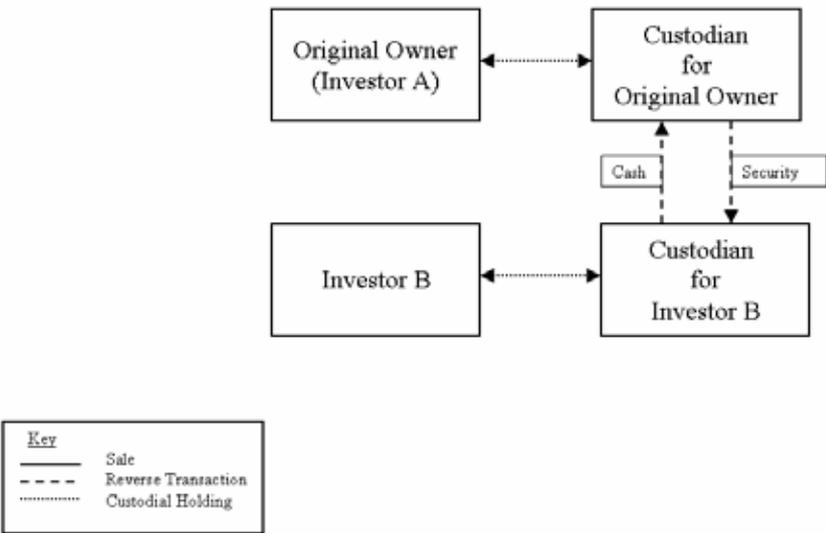
Source: Compiled by author.

**Figure 5**  
**A Multinational Borrowing and Short Sale Chain**



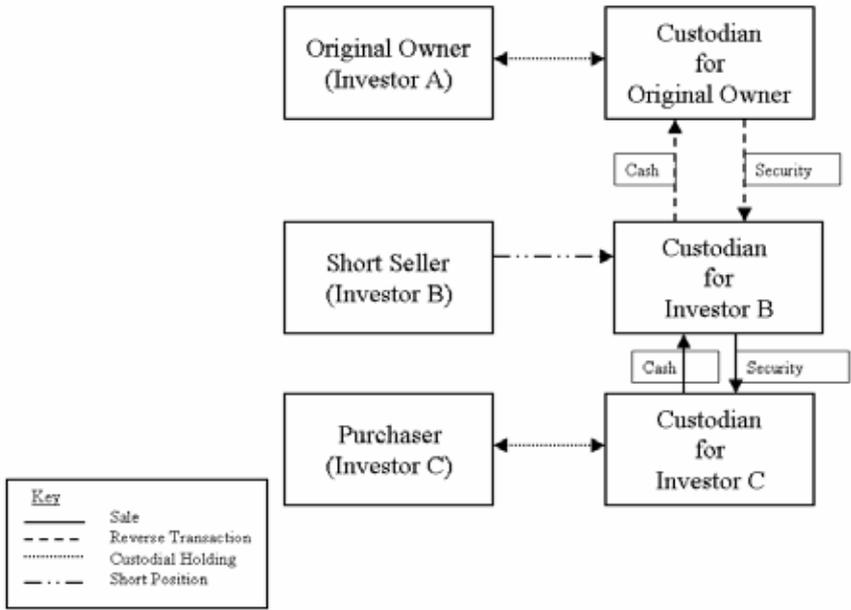
Source: Compiled by author.

**Figure 6**  
**A Typical "Delivery vs. Payment" Reverse Transaction**



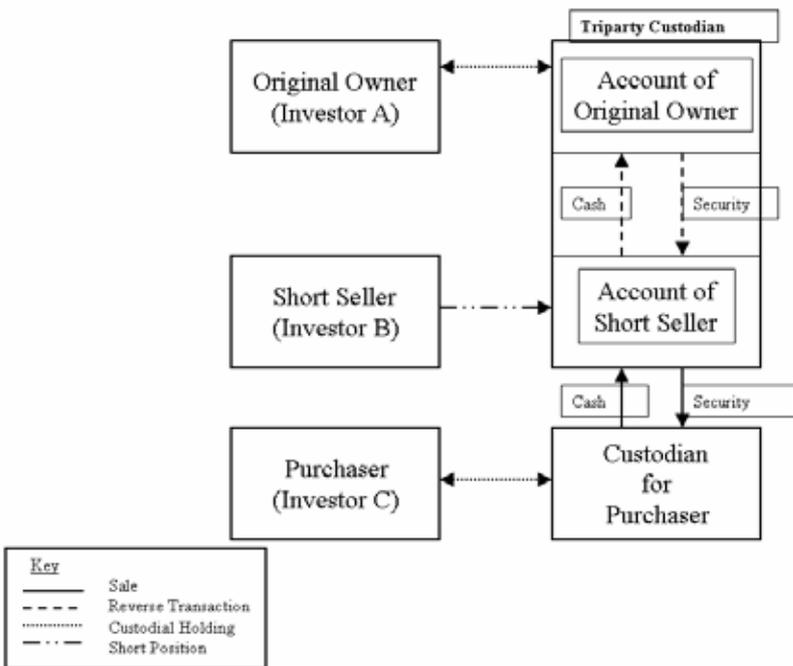
Source: Compiled by author.

**Figure 7**  
**A Typical Short Sale Using a “Delivery vs. Payment” Reverse Transaction**



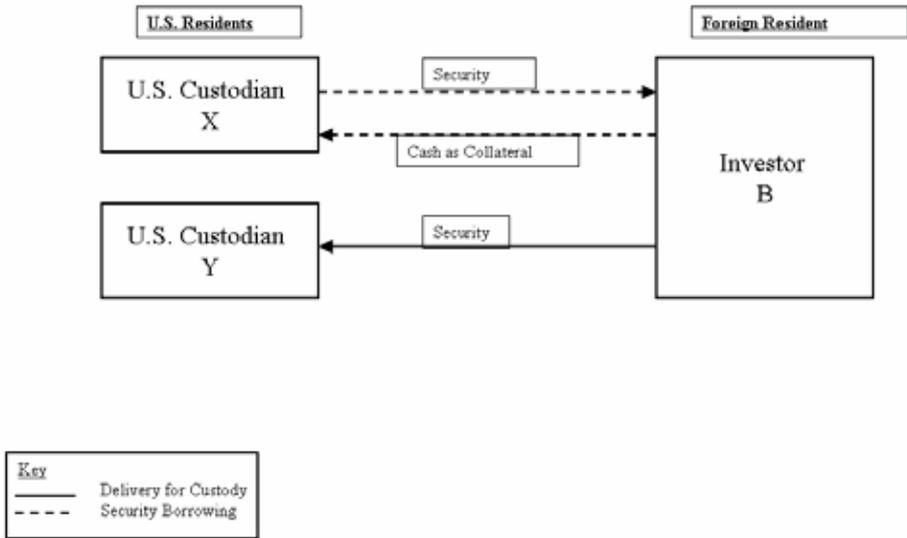
Source: Compiled by author.

**Figure 8**  
**A Typical Short Sale Using a Tri-party Repurchase Agreement**



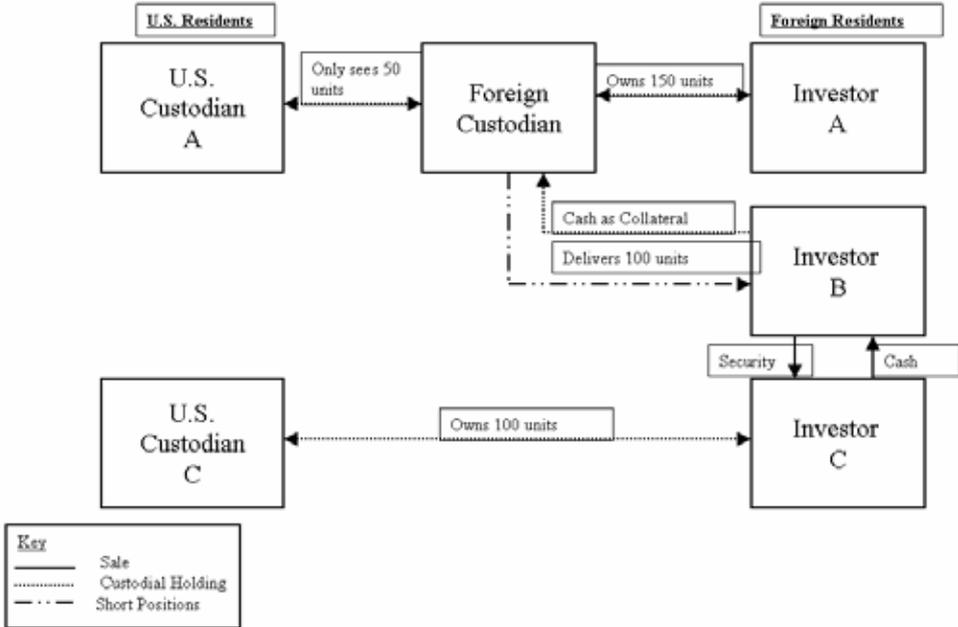
Source: Compiled by author.

**Figure 9**  
**A Borrowed Security When the Investor Uses Two U.S. Financial Intermediaries**



Source: Compiled by author.

**Figure 10**  
**A Short Sale Conducted Through a Foreign Custodian**



Source: Compiled by author.