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## APPENDIX D – FUNDAMENTALS OF THE FUNDS TRANSFER PROCESS

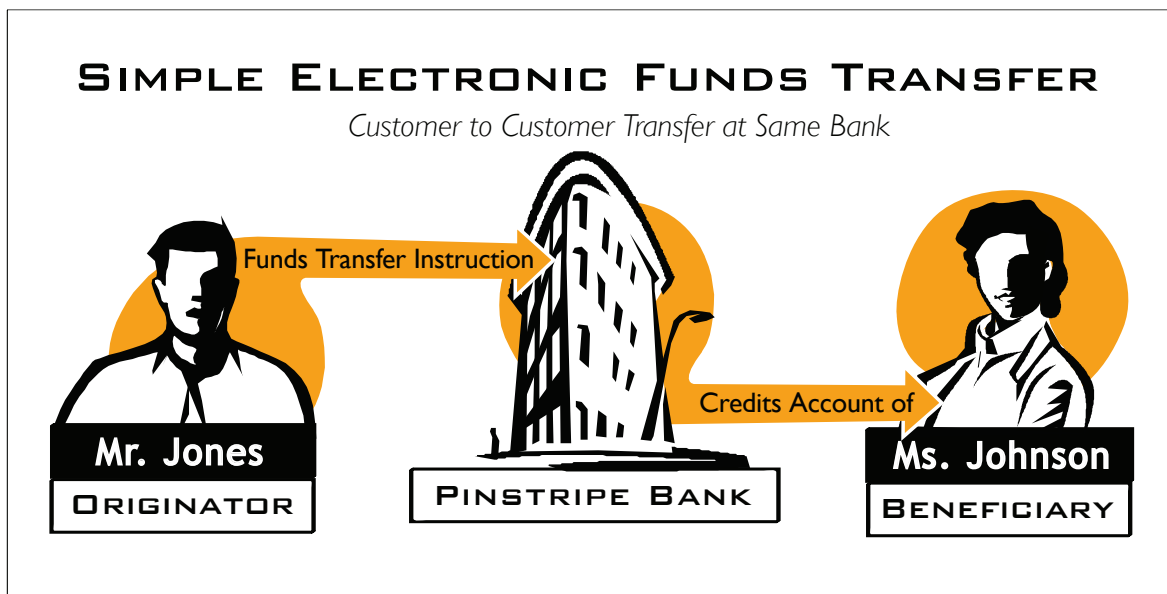
Essentially, an electronic funds transfer is a transaction by which funds move from one institution to another or one account to another at the direction of an institution's customer and through the transmission of electronic instruction messages that cause the institutions to make the required bookkeeping entries and make the funds available. Funds transfers are the primary mechanism used by the business community for fast and reliable transfer of funds between two parties.

The funds transfer process generally consists of a series of electronic messages sent between financial institutions directing each to make the debit and credit accounting entries necessary to complete the transaction. A funds transfer can generally be described as a series of payment instruction messages, beginning with the originator's (sending customer's) instructions, and including a series of further instructions between the participating institutions, with the purpose of making payment to the beneficiary (receiving customer).

The "players" that may be involved in a funds transfer transaction include:

- Originator, e.g., individual, business entity - the initiator of a funds transfer;
- Beneficiary - the ultimate party to be credited or paid as a result of a funds transfer;
- Originator's Financial Institution - the financial institution receiving the transfer instructions from the originator and transmitting the instructions to the next party in the funds transfer;
- Beneficiary's Financial Institution - the financial institution that is to credit or pay the beneficiary party; and
- Additional Financial Institutions - other institutions that may be required to effect the transaction.

The simplest funds transfers occur between two customers of a single financial institution. The originating customer simply instructs the institution to transfer funds to the beneficiary customer. The institution makes the required book entries in its accounting system and the transfer is complete. Such transfers occur primarily in purely domestic transfers, but could conceivably occur within a single institution with both U.S. and foreign branches.



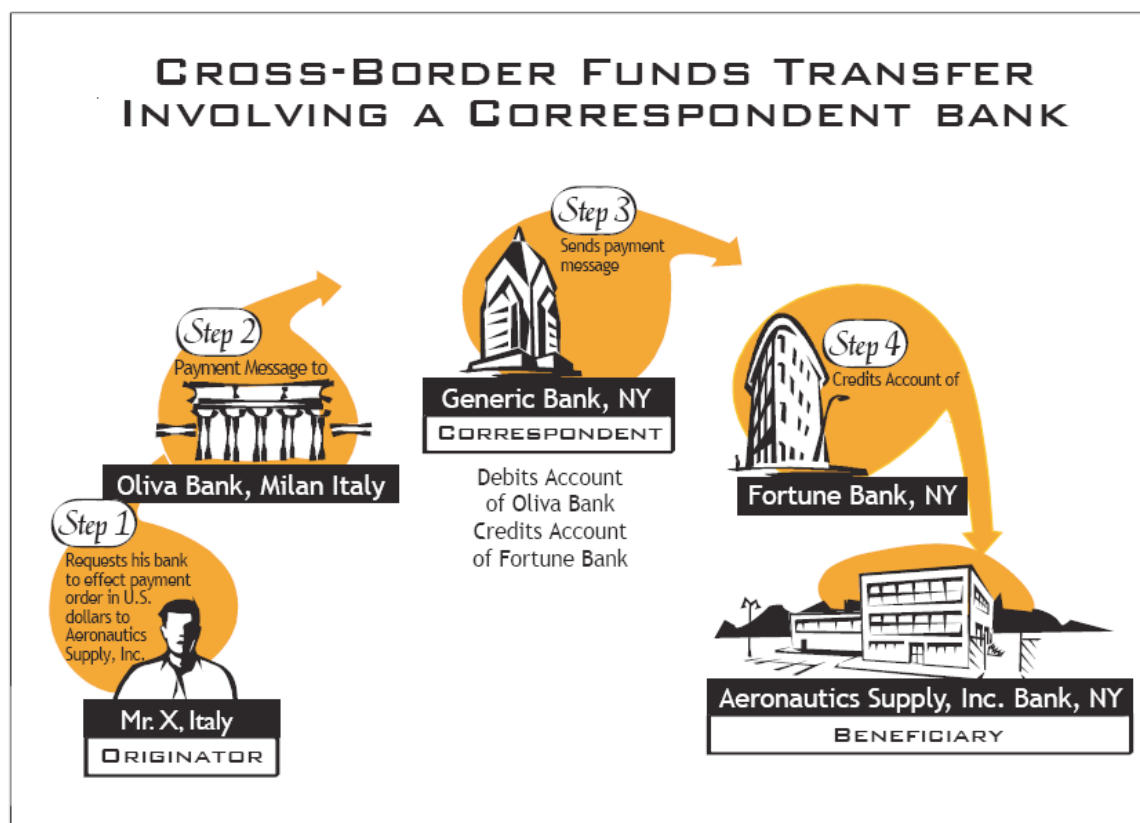
Scenarios that are more complicated appear when the number of institutions involved increases. These more complicated scenarios are far more common in the cross-border context, especially if an originator's institution does not have a branch in the beneficiary's foreign location. In this case, one financial institution may rely upon established business relationships with additional financial institutions to complete the transaction. Such relationships are "correspondent relationships."<sup>40</sup> A correspondent relationship, simply put, is the provision of banking services by one financial institution to another financial institution. For example, in the case that two institutions that need to complete a transaction both maintain accounts at a third institution, that third institution may transfer the funds from one's account to the other's to facilitate the customers' transfer.<sup>41</sup> When coupled with electronic communications systems, such correspondent relationships expedite the transfer of funds across international borders and within countries.

To complete this kind of transfer, the customer's bank must identify another bank with which it maintains a "correspondent" relationship. In this case, a secure message between the banks can result in a "book transfer" where funds

40 The financial industry commonly uses many technical terms to describe these additional financial institutions. These terms include "intermediary" financial institution, "instructing" financial institution, "sender's correspondent," and "receiver's correspondent." In this study, we use the term "correspondent" to describe these additional financial institutions.

41 For example, America's Community Bankers, in its response to FinCEN's March 2006 industry survey, noted, "Most community banks use a correspondent bank to provide cross-border transactions. As a result, most community banks do not deal directly with institutions located outside the United States. Any reporting requirement should be limited to institutions that transmit funds directly to a foreign bank. The Department of the Treasury would still receive data about cross-border transfers originated by community banks, but that information would come from the correspondent."

are simultaneously debited from one account and credited to another. In the simplest example, the originator instructs her bank to transfer funds to the beneficiary and the bank sends an instruction to its correspondent, which makes the funds available to the beneficiary. When both the originator's and beneficiary's institutions have a correspondent relationship with the same third-party institution, the originator's institution can send the funds transfer through this "mutual correspondent."



Two banks that do not have a correspondent relationship can still transfer funds if they can establish a chain of banks that do have such a relationship. When the originator and beneficiary financial institutions do not maintain relationships with a mutual correspondent financial institution, they must rely upon additional correspondent financial institutions to complete the funds transfer. The additional "correspondent" financial institutions are essential pieces of the end-to-end funds transfer. Examples of these kinds of transfers appear in the discussion of the major funds transfer payment and messaging systems below. This process is eased by the existence of large "money center" banks that maintain correspondent relationships with many smaller banks and with each other. Importantly, a relatively small number of major money center banks specialize in facilitating international funds transfers through their network of correspondent relationships, and thus form a key link in the vastmajority of all international funds transfers.

Cross-border electronic funds transfers of the type considered by this study flow primarily through banks.<sup>42</sup> However, money remitters also provide valid and legitimate financial services in this area. Generally, remitters receive from their customers cash, for which the remitter transfers corresponding value to designated beneficiaries for a fee. Money remitters generally tend to engage in low dollar transactions, and traditionally serve the non-banking segment of the population -- notably new immigrants, permit-holding or clandestine foreigners, or any other person not having a bank account -- and frequently transfer funds to less advanced regions of the world where banking services are scarce.

### ***Primary Industry Funds Transfer Systems in Operation***

The actual exchange of data and funds necessary to complete a funds transfer transaction relies upon electronic processing, settlement, and communication systems.<sup>43</sup> This study focuses primarily upon the communication aspect of these systems. While the various payment and messaging systems offer differing levels of functionality, the instruction messages underlying all of these functions are the primary source of the data at issue in this study.<sup>44</sup> From a financial intelligence perspective, it is the information about the transaction rather than the movement of any actual funds that advances the effort to combat illicit finance. The payment instructions themselves identify the parties to the transaction and sometimes even more detailed information.

For the purposes of this study, FinCEN examined the operations of three payment or messaging systems in operation in the United States -- Fedwire, CHIPS, SWIFT -- and proprietary systems, primarily those used by money services businesses.

#### ***Fedwire***

The Federal Reserve Banks own and operate the Fedwire funds transfer system that serves as the primary domestic electronic funds transfer system in the United States. The Fedwire system handles both the transmission of funds transfer instruction messages among financial institutions, as well as the settlement of the payment among the Fedwire participants. The Fedwire

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42 This study, due to the limitations imposed by Section 6302 and the scope of the current funds transfer rule, does not examine the use of internet-based payment systems, stored value cards, ATM networks, etc. A significant number of "electronic funds transfers" traverse such systems, but would not fall within the scope of the proposed reporting requirement.

43 For purposes of this report, the term "settlement" refers to the actual debiting and crediting of accounts of the participant financial institutions. Communication between the participant financial institutions supports the settlement process as a means by which the institutions advise one another of actual debits and credits.

44 For example, Fedwire and CHIPS involve both the transmission of instruction messages and the settlement between institutions. SWIFT, on the other hand, does not effect the actual movement of any funds, but consists entirely of instructions for transfers that the institutions must complete by other means.

funds transfer system is a real time gross settlement system. In general, a system operates in “real time” if it processes each transaction immediately upon receipt.<sup>45</sup> A Fedwire transfer is irrevocable once the Federal Reserve credits the amount of the payment to the receiving bank’s account or delivers the payment order to the receiving bank, whichever is earlier.<sup>46</sup> The Federal Reserve Bank makes final payment to the receiving bank at the time the transfer is complete regardless of whether the Reserve Bank has received payment. On an average day in 2005, Fedwire processed approximately 528,000 transactions valued at \$2.1 trillion.<sup>47</sup> More than 7,000 institutions use Fedwire.

The Fedwire system is available only to U.S. financial institutions and does not permit a participating U.S. financial institution to transmit instructions or transfer funds directly to a non-U.S. financial institution.<sup>48</sup> The illustration below shows the flow of instructions and funds in a very simple Fedwire transfer.

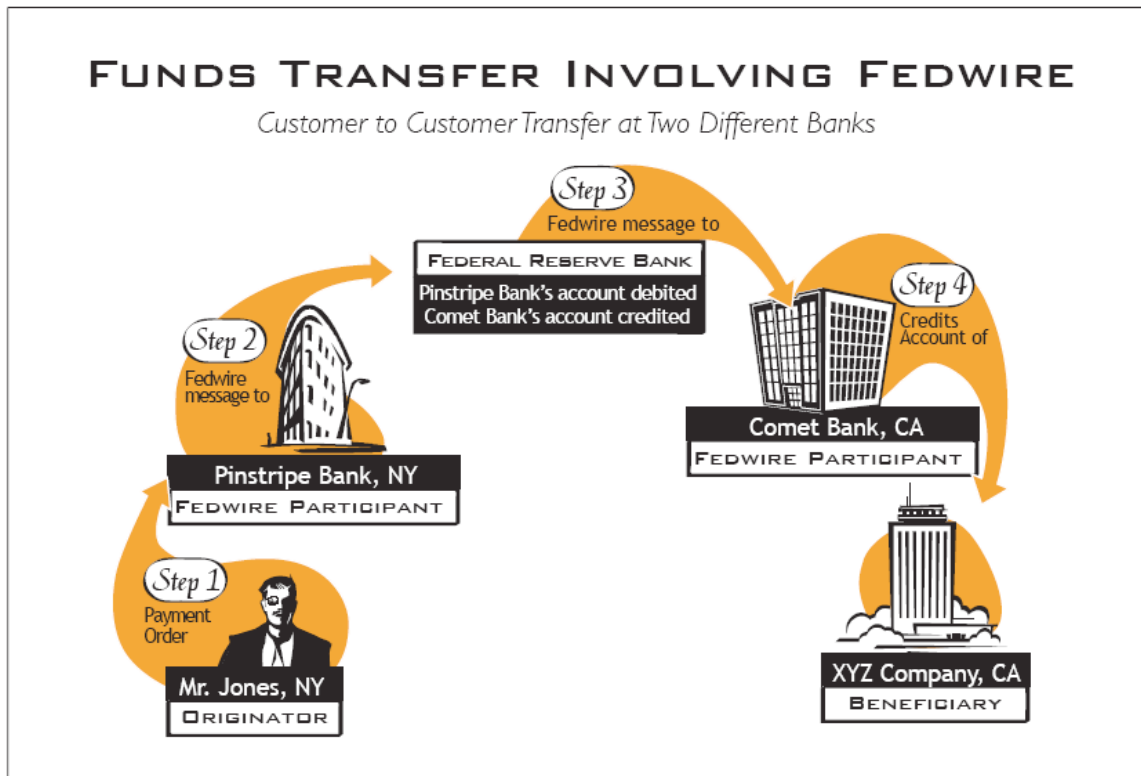
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45 This is in contrast to a batch-processing, store-and-forward system, such as the “Automated Clearinghouse” or “ACH” payment system. The ACH system operators process ACH “files” that contain multiple payment messages from a single originator (i.e., corporate payroll payments), called “batched messages.” An ACH operator processes the batched file for settlement at scheduled intervals, such as one to two days after it receives the batched file. The terms of Section 6302 of the Intelligence Reform Act defined the current study in such a way as to exclude ACH payments from the scope of the study.

46 “Sending Bank” refers to the financial institution that actually sends the message into the Fedwire system. The Sending Bank may be a correspondent bank of an originator’s bank if the originator’s bank is not a Fedwire participant. “Receiving Bank” refers to the financial institution actually receiving the funds transfer from the Fedwire system. The Receiving Bank may be a correspondent bank of the beneficiary’s bank if the beneficiary’s bank is not a Fedwire participant.

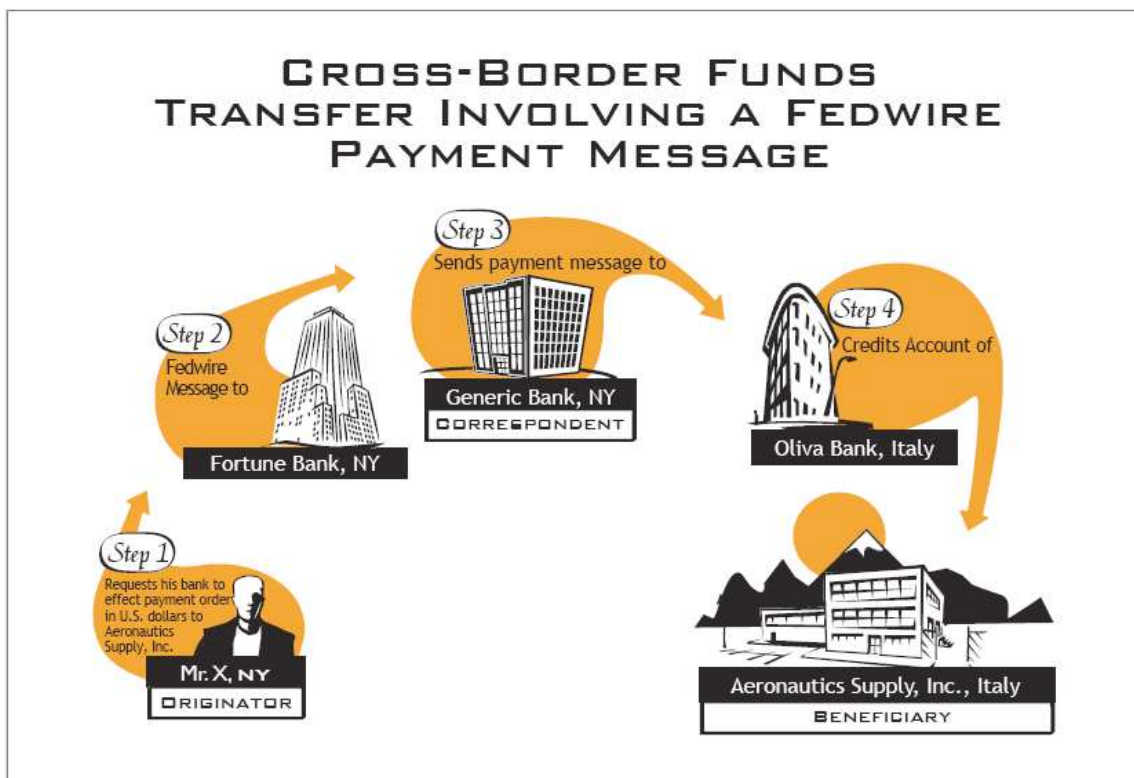
47 See <http://www.federalreserve.gov/paymentsystems/fedwire/fedwirefundstrfann.htm>. See also, 91<sup>st</sup> Annual Report 2004, Board of Governors of the Federal Reserve System, p. 285.

48 Note that a foreign financial institution in fact, can gain access to the Fedwire system through a U.S. branch of the institution. That U.S. branch would be a U.S. financial institution for the purposes of the Bank Secrecy Act and its legal and regulatory requirements. In addition, certain foreign central banks receive funds transfers through the Fedwire funds transfer system.



It is important to note, however, that a Fedwire instruction may serve as one segment of a cross-border funds transfer. Fedwire can come into play to settle/clear the payment in U.S. dollars as illustrated below:





### CHIPS

Like Fedwire, the Clearing House Interbank Payments System (CHIPS) handles both the transmission of funds transfer instruction messages among financial institutions, as well as the settlement of the payment between the institutions. CHIPS is operated by The Clearing House Payments Company, L.L.C.<sup>49</sup> CHIPS is the United States' main electronic funds-transfer system for processing international U.S. dollar funds transfers made among international banks. Like Fedwire, CHIPS is a real-time final settlement system. In other words, CHIPS settles the transactions at the time CHIPS transmits the payment order; meaning that the sending participant's obligation to pay the amount of the payment order to the receiving participant is discharged at the time CHIPS releases the payment message.<sup>50</sup>

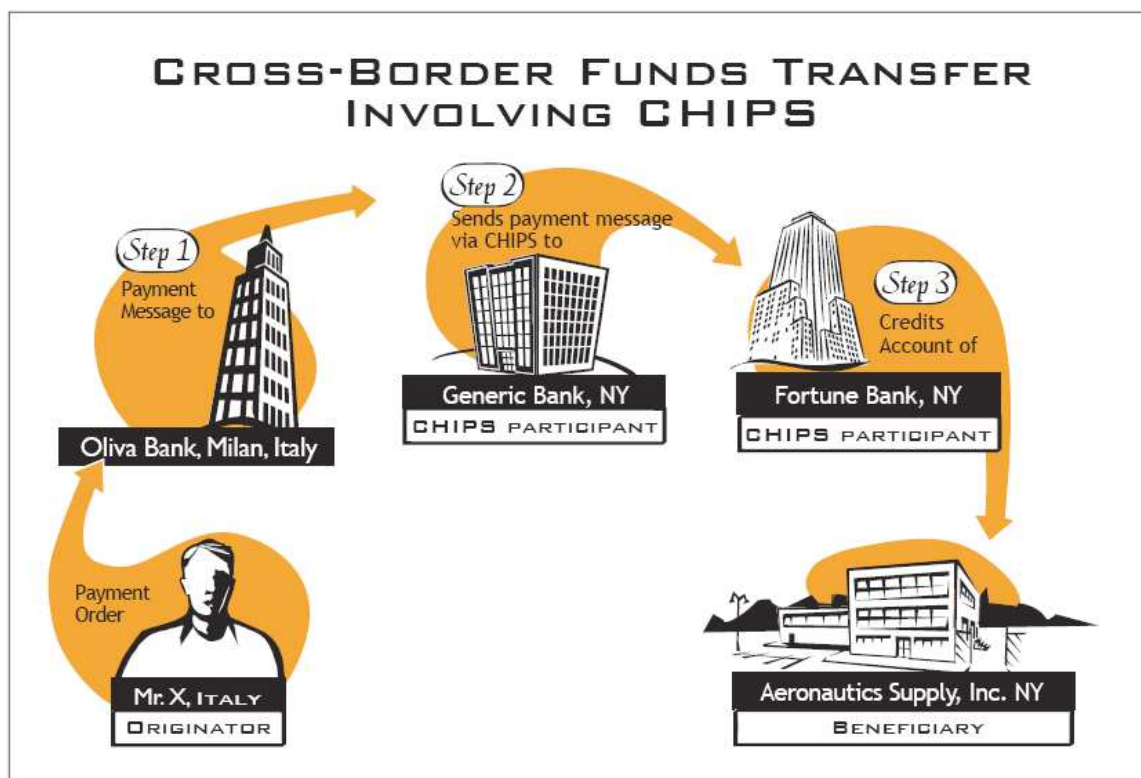
CHIPS claims to handle more than 90% of all U.S. dollar-based funds transfers moving between countries around the world. According to recent information provided by CHIPS, the system directly serves 46 banks representing 19

49 See <http://www.chips.org/home.php>

50 The "sending participant" refers to the bank actually inputting/sending the payment message to CHIPS. The "receiving participant" refers to the bank actually receiving the payment message from CHIPS.

countries. Recent figures reveal an approximate average of 280,000 transactions per day with a total monetary value of \$1.4 trillion.<sup>51</sup>

Access to the CHIPS payment system is conditional upon a financial institution's U.S. presence. In other words, the financial institutions using CHIPS must operate a U.S. branch or office for the use of the system. Accordingly, the CHIPS system does not permit a participating U.S. financial institution to transmit instructions or transfer funds directly to a non-U.S. financial institution. As in the case of Fedwire, it is important to note that a CHIPS instruction may serve as one segment of a cross-border funds transfer, as illustrated below:



### SWIFT

The Society for Worldwide Interbank Financial Telecommunication (SWIFT) provides secure electronic financial messaging services to financial institutions. SWIFT, which is a cooperative society owned by its member banks, is a unified international financial transaction messaging service.<sup>52</sup> SWIFT represents an extensive telecommunications network by which a financial institution in one country can communicate with its branches or correspondent institutions

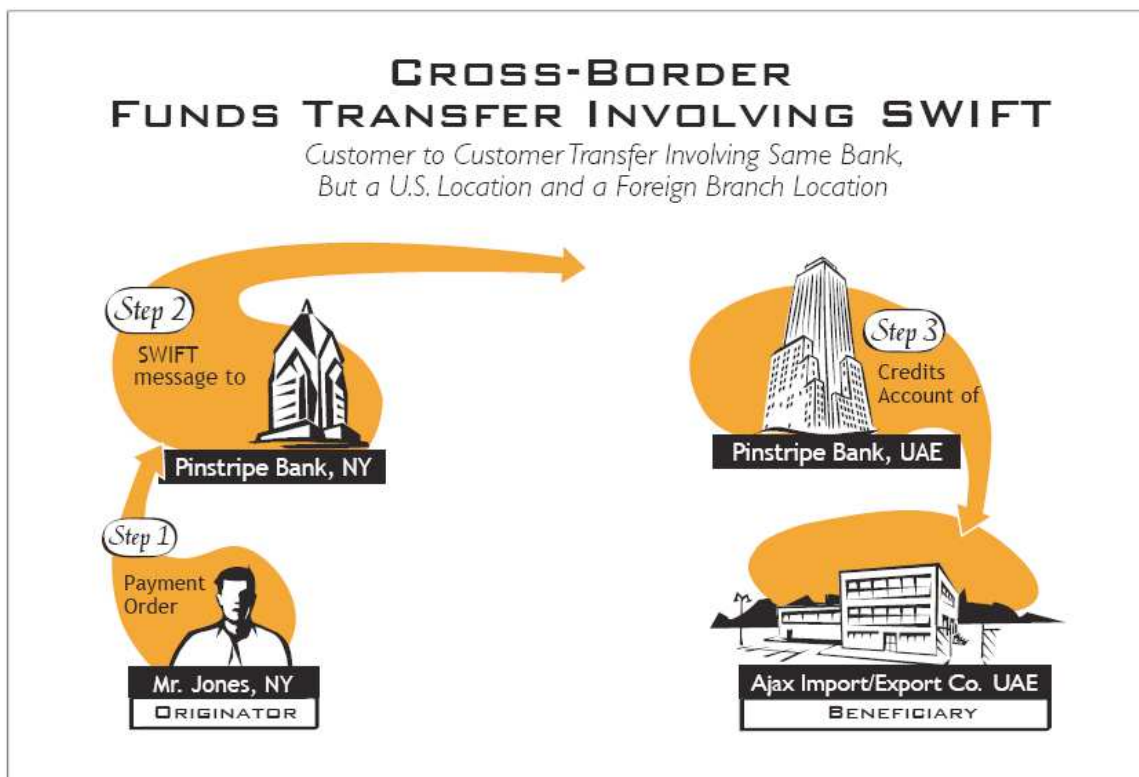
<sup>51</sup> See, generally, CHIPS Annual Statistics from 1970 to 2006, available at <http://www.chips.org/about/pages/000652.php>

<sup>52</sup> See <http://www.swift.com/>



anywhere in the world. In contrast to Fedwire and CHIPS, SWIFT is a messaging system for funds transfer instructions, rather than a financial settlement system. Recent figures reveal that approximately 7,600 SWIFT members and participants located in over 200 countries exchange approximately nine million messages per day. SWIFT's worldwide user community includes banks, broker/dealers and investment managers, as well as their market infrastructures in payments, securities, treasury, and trade. As of 2004, there were 574 U.S. financial institutions connected to SWIFT; those institutions sent approximately 383 million and received approximately 427 million SWIFT payments messages.<sup>53</sup> SWIFT processes over 2 billion messages per year. Daily overall volume of messages sent using the SWIFT system has tripled over seven years, with peak days of over 10 million messages in 2004. SWIFT messages direct the transfer of nearly \$5 trillion worldwide each day.

In contrast to Fedwire and CHIPS, a SWIFT message may travel directly from a U.S. financial institution to a foreign institution or vice versa. In practice, SWIFT is the primary method for international funds transfer messages.



<sup>53</sup> The SWIFT messaging system uses many different types of message formats to complete specific kinds of transactions. The primary message format used for customer payment messages is the SWIFT "MT-103" which represents a "Single Customer Credit Transfer," or in simpler terms, a transaction conducted by an institution not on its own behalf, but on behalf of its customer. These figures include MT-103 customer payments as well as other forms of payment messages that are not a subject of this study. We could find no more detailed breakdown of SWIFT MT-103 traffic.

### ***Interplay Between Funds Transfer Systems***

The aforementioned systems serve different functions and roles in the funds transfer transaction process. Financial institutions often use the Fedwire and CHIPS systems to handle both the message traffic and the actual movement and settlement of the funds. Institutions typically use the SWIFT system for communicating message instructions among financial institutions relating to the funds transfer.

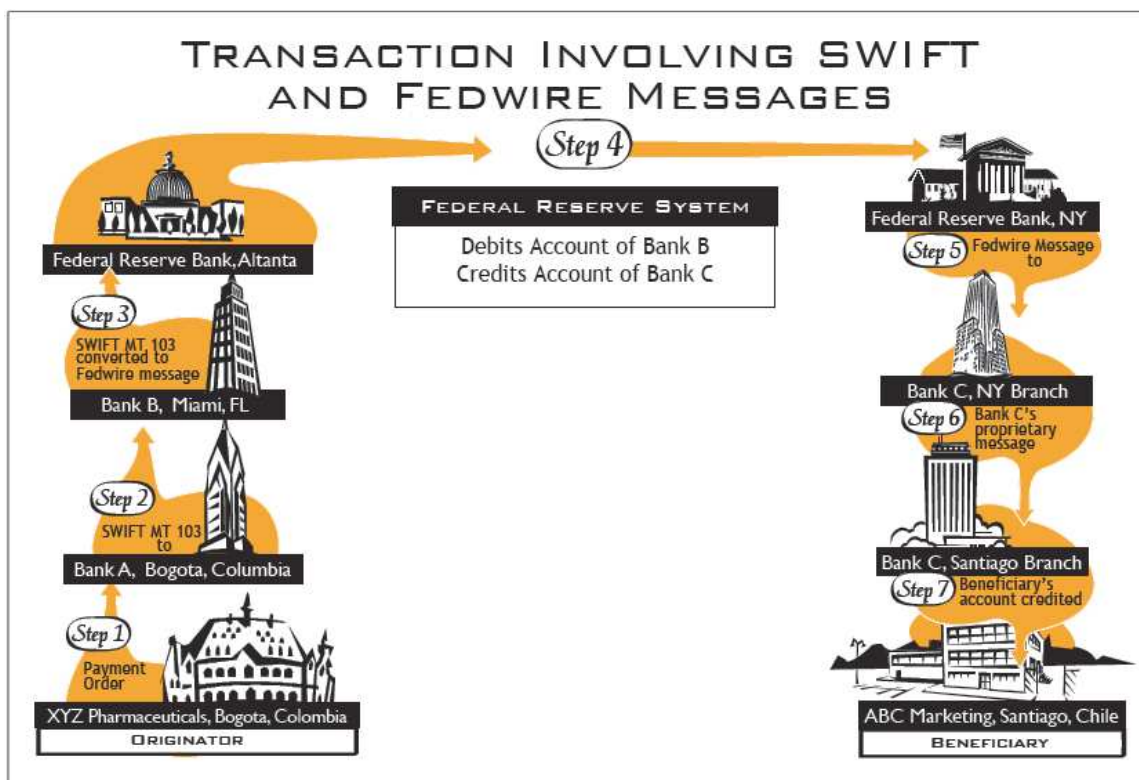
Funds transfers often involve a combination of SWIFT and Fedwire messages or SWIFT and CHIPS or other instruction messages in the same transaction. For example, a U.S. institution may receive a SWIFT message from a foreign institution and map the message into a Fedwire or CHIPS message before passing it along to the additional U.S. financial institutions serving as correspondents.<sup>54</sup>

When a funds transfer requires multiple correspondents' participation and involves more than one message system, one or more of the institutions translates or "maps over" the data from one message format to another. An estimated 70% of the traffic on the CHIPS system, for example, originates from SWIFT message traffic.<sup>55</sup>

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54 Whether an institution employs Fedwire or CHIPS as a settlement system in a transaction may depend, for example, upon whether the financial institutions involved are participants of CHIPS or Fedwire.

55 Global Payments: Moving U.S. Dollars, Teleseminar, March 30, 2005, available through <http://www.paymentsuniversity.com/home.php>



### *Money Transmitters*

In addition to the banking industry, certain money services businesses (MSBs) operate as retail money transmitters. The term “money services business” refers to five distinct types of financial services providers that perform valuable services to a wide array of individuals, many of whom do not have ready access to or for their own reasons may eschew relationships with depository institutions.<sup>56</sup> Of primary concern for the purposes of this study are money transmitters.

Money transmitters provide many of the same attractions as the major bank-based electronic funds transfer systems. Money transmitters often maintain agent relationships with businesses around the globe, permitting rapid, secure transfer of funds. In addition, because money transmitters do not have account relationships with their customers, they are not required to perform customer identification and verification other than pursuant to the Funds Transfer and Travel Rules and the CTR requirements. While there are many such businesses, it is estimated that a relative handful of large money transmitters (i.e., 3-10) account for as much as 97% of the total volume of money remittances to or from the U.S.<sup>57</sup> through money transmitters.

<sup>56</sup> See 31 C.F.R. § 103.11(uu) for the definitions of “money services business” and “money transmitter” under the Bank Secrecy Act.

<sup>57</sup> Non-Bank Financial Institutions: A Study of Five Sectors, Coopers & Lybrand, L.L.P. (Feb. 28, 1997).

The few largest U.S. money transmitters provide money transfer services for consumers and businesses worldwide. Through hundreds of thousands of independently owned businesses (“send and receive agents”), these institutions provide money transfer services in approximately 200 countries and territories worldwide. Each day, these institutions process hundreds of thousands of money transfers involving U.S.-based customers.

The largest money transmitters maintain centralized data collection systems for all transactions and process all transactions by their agents through central processing systems located in the United States. Every send and receive agent collects the relevant information from its customers, including the data elements required by the Funds Transfer rule as appropriate, and submits the funds transfer instructions through a centralized system which in turn transmits the instructions to another appropriate send and receive agent for delivery of the funds.

It is possible for investigators to obtain information about funds transfers made through these money transmitters pursuant to a subpoena or other legal process. In response, the companies conduct a computer-based search based on key identifying information and generate a summary report containing basic information about the identified transactions. The information generally includes the send and receive agents, the date and amount of the transfer, and the parties to the transaction. The large money transmitters typically can retrieve additional detailed information in response to follow-up requests from investigators. In addition, these companies can conduct aggregate searches of larger volumes of transfer data in response to a proper legal request from law enforcement.

While money transmitters offer an alternative to banks, many must retain the services of a depository institution in order to conduct their own business.<sup>58</sup> In this situation, a money transmitter collects currency from its customers, sends transfer instructions to affiliates in other locations, deposits the currency into a bank account, and effects one or more electronic funds transfers through the bank to settle its accounts with the affiliates.

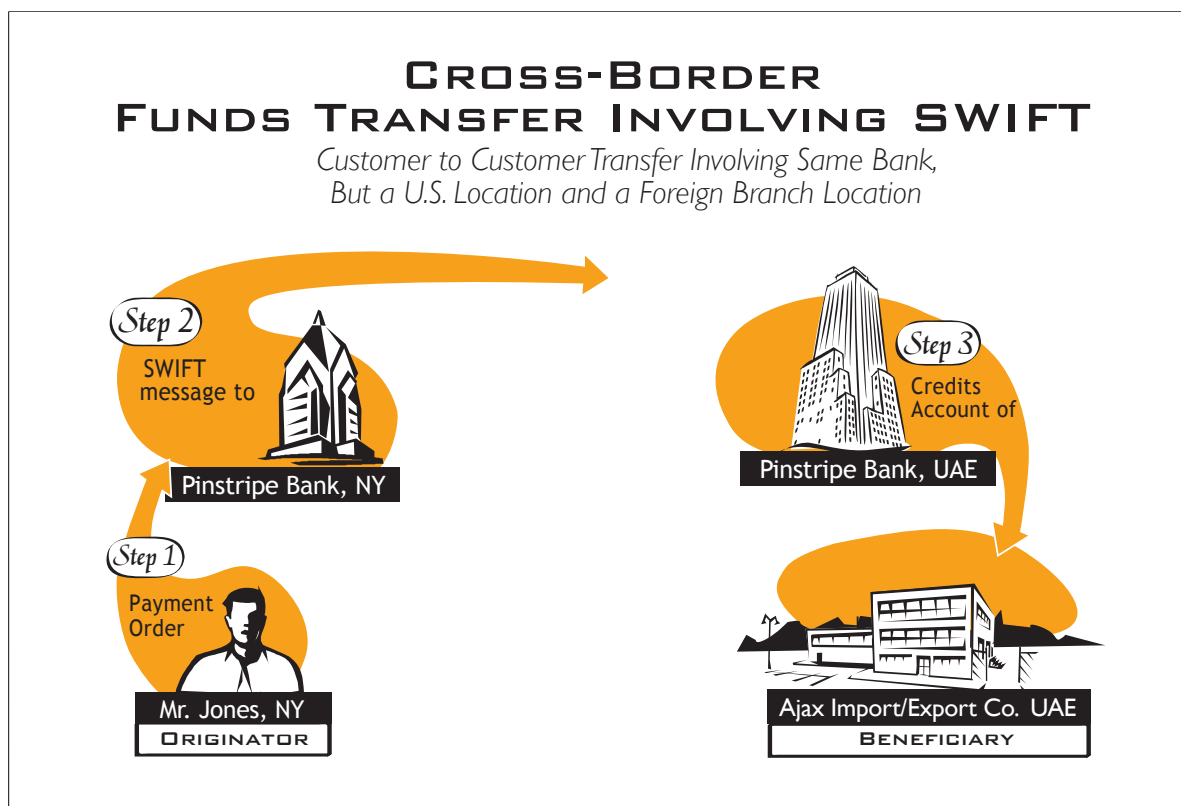
#### *Proprietary Transfer Systems and Other Issues*

Whether a depository institution, a money transmitter, or otherwise, a financial institution, may also use proprietary or internal systems to handle all or part of

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<sup>58</sup> Note, however, that this is not true of all “money transmitters.” As the 9/11 Commission noted, “A hawala, at least in its “pure” form, does not use a negotiable instrument or other commonly recognized method for the exchange of money. Hawaladars instead employ a variety of means, often in combination, to settle with each other: they can settle preexisting debt, pay to or receive from the accounts of third parties within the same country, import or export goods (both legal goods, with false invoicing, or illegal commerce, such as drug trafficking) to satisfy the accounts, or physically move currency or precious metal or stones.” Monograph on Terrorist Financing, National Commission on Terrorist Attacks Upon the United States. p. 68

an electronic funds transfer, i.e., between branches of the same institution. Such systems pose a special challenge because of the wide range of potential message formats, communications protocols, and data structures involved. For example, a U.S.-based correspondent involved in a cross-border transfer may have a foreign branch that can complete the transfer without involving additional institutions. In such a case, the U.S.-based correspondent may employ the institution's internal systems to transmit the instructions to its foreign branch. In such a case, the instruction may have traversed the Fedwire or CHIPS systems, but never traversed any other messaging systems not within the direct control of the correspondent institution.



### *“U-Turn” Transactions*

It also occurs that funds transfers from one foreign location to another foreign location may involve a U.S.-based bank serving as a correspondent bank. In this type of transaction, there is no originator or beneficiary within the United States, but a U.S. financial institution handles some segment of the funds transfer. As a result, these U.S.-based banks may be privy to the specific details of such transactions and maintain related internal records of these transactions.

### *“Serial” Payment and “Cover” Payment Methods*

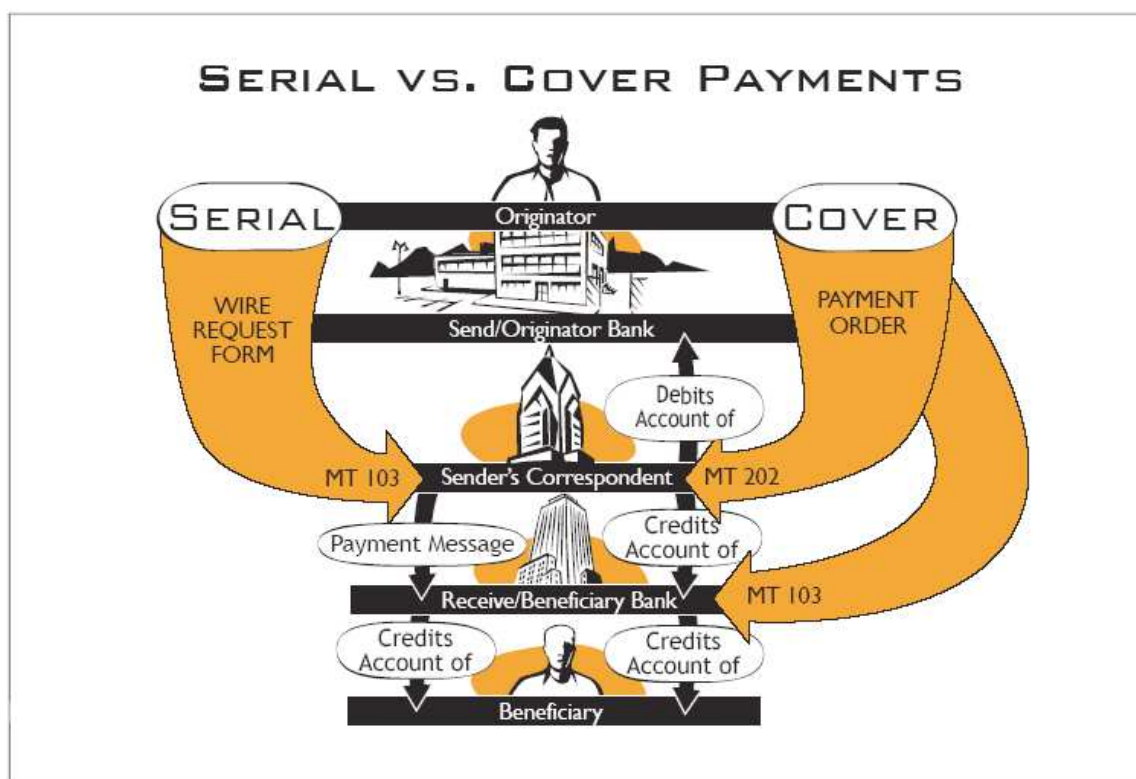
In examining these foreign location-to-foreign location funds transfers involving U.S.-based correspondent banks, there are two primary methods of payment: the “Serial” payment method and the “Cover” payment method.



In the serial payment method, one financial institution transmits the funds transfer instructions (i.e., a SWIFT MT 103 message) to the next financial institution in the overall “payment chain.” Each institution in the communication chain receives the same level of detail about the transaction at each step.

In contrast, the “Cover” payment method divides the message into two parts. The originator’s bank sends the detailed funds transfer instruction directly to the beneficiary’s bank. In this case, no U.S. institution receives the instruction that identifies the originator and beneficiary of the transaction. The originator’s bank also sends a second “cover” payment instruction (i.e., a SWIFT MT 202 message) that directs the transfer of the funds from the originator’s bank to the beneficiary’s bank as a financial institution-to-financial institution settlement payment.

The following diagram illustrates the basic comparison between the two methods:



When the “Cover” payment method is used, a U.S.-based correspondent bank will receive the cover payment message identifying only the foreign institutions involved, but not the originator and beneficiary. Although this particular message may not contain the customer-related details that could appear in a serial payment, the cover payment message could, nevertheless, be useful for broader analyses. This may include, for example, examining these cover



payment messages to monitor and detect sudden and unusual spikes in overall funds flows to, through, and from certain banks and/or countries possibly resulting in findings warranting further exploration from either the regulatory or law enforcement perspectives.

The illustration below represents the use of the Cover payment method.

