

**The Use of Formal Methods to Map, Analyze and Interpret
Terrorist- Related Alternative Remittance Systems**

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Abstract

This paper will examine alternative remittance systems: the fundamental principles involved, how they work in practice, and how they can be traced and transactions among them monitored.

We will begin with a brief discussion of the fundamental principles involved. A brief history of these networks in the West will be sketched out and this will be compared to contemporary alternative remittance networks. A series of formal methods for mapping and analyzing these networks will be proposed. Finally, the potential uses of alternative remittance systems for illegal activities—such as money laundering and transmission of funds to terrorists will be discussed together with their vulnerabilities.

Background

Alternative informal remittance systems are not “informal”: they are highly formalized through means such as local contracts, kinship and marriage, friendship, common business arrangements, partnerships, ethnicity and other means of institutionalizing trust—such as religion. They are only “informal” in the sense that they are not modern banking networks and organizations.¹ They are also not “alternative” in the sense that, before the emergence of modern fiduciary institutions, they were the predominant remittance system. In many parts of the world, they still are today. They have persisted because they are fast, relatively inexpensive, and reliable.² Modern communications have made them faster, less expensive and more reliable. Jost and Sindu provide a contemporary example:

¹ There is abundant evidence that modern fiduciary systems emerged out of these systems through a process of structuration. See Berkowitz, 1975.

² Jost and Sindu argue that “hawala 'works' - or competes effectively with other remittance mechanisms - because of its cost effectiveness. A secondary consideration is that hawala is often related or even integral to existing business dealings.” (Jost and Sindu, 2002:1).

Hawala works by transferring money without actually moving it. In fact 'money transfer without money movement' is a definition of hawala that was used, successfully, in a hawala money laundering case. An effective way to understand hawala is by examining a single hawala transfer. In this scenario... Abdul is a Pakistani living in New York and driving a taxi. He entered the country on a tourist visa, which has long since expired. From his job as a taxi driver, he has saved \$5,000 that he wants to send to his brother, Mohammad, who is living in Karachi... Even though Abdul is familiar with the hawala system, his first stop is a major bank. At the bank, he learns several things: The bank would prefer that he open an account before doing business with them; the bank will sell him Pakistani rupees (Rs) at the official rate ...of 31 to the dollar; and the bank will charge \$25 to issue a bank draft. This will allow Abdul to send Mohammad Rs 154,225. Delivery would be extra; an overnight courier service (surface mail is not always that reliable, especially if it contains something valuable) can cost as much as \$40 to Pakistan and take as much as a week to arrive. Abdul believes he can get a better deal through hawala, and talks to Iqbal, a fellow taxi driver who is also a part-time hawaladar. Iqbal offers Abdul the following terms: A 5% 'commission' for handling the transaction;35, instead of 31, rupees for a dollar; and delivery is included. (Jost and Sindu: 2002:1).

Jost and Sindu go on to observe that “ this arrangement will allow Abdul to send Mohammad Rs 166,250. The delivery associated with a hawala transaction is faster and more reliable than in bank transactions.” (Jost and Sindu, 2000:1).

He is about to make arrangements to do business with Iqbal when he sees ...{an} advertisement.. .in a local 'Indo-Pak' newspaper which offers him Cheap tickets to India, Pakistan, Bangladesh, Sri Lanka, Dubai, Great rupee deals (service to India and Pakistan), large movie rental selection, video conversions, latest Hollywood hits on CD and cassette, prepaid international calling cards, pager and cellular activations (trade-ins welcome). It stipulates that it is conveniently located in Jackson Heights Abdul calls the number, and speaks with Yasmeen. She offers him the following deal: A

fee of 1 rupee for each dollar transferred; 37 rupees for a dollar; and delivery is included (Jost and Sindu, 2002: 1).³

Whether they are called “hawala networks” or “chop” networks and are institutionalized among Indians, Saudis, Pakistanis, overseas Chinese, or Parsees, they are fundamentally the same. In the West, their units were historically referred to as “merchant banks” because, among other things, they did banking on commercial credit. There were two fundamental forms: that of the Church-connected banks (the “pope’s usurers”) and the networks among Jews and Syrians. Church-related banks (e.g., the Medici and the Fuggers) relied on ties between the principles and their children or trusted employees’ children to ensure transactions (De Roover, 1963; Ehrenberg, 1928). This worked reasonably well, but these banks had an unfortunate tendency to lend rather too much money to the rascally rulers in Europe. In the case of the branch of the Medici family whose records are in Baker library at Harvard (15,000 bundles), this was their undoing (De Roover, 1963). The same thing happened to the Fuggers somewhat later (Ehrenberg, 1928). The Jews and the Syrians structured their networks through careful dynastic marriages. These tended to be so successful that if, as in the case of the Mendes, they were nominal Christians; their daughters hands were the most sought after by the nobility in Europe (Roth, 1969; 1970).

Effective contemporary remittance networks tend to be institutionalized through one or another form of kinship. If one understands the fundamental principles involved, it is possible, although difficult, to track transactions among them. Although most modern research into these networks has been geared towards understanding their use for money laundering or by terrorists, this is only a tiny proportion of all transactions they undertake. They succeed in disguising

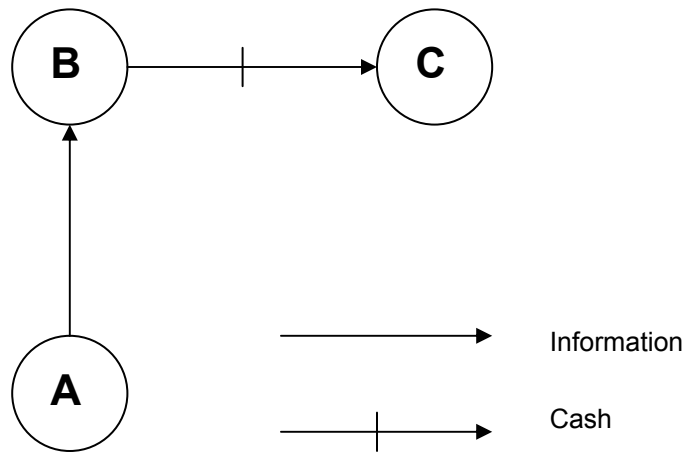
³ This yields a transferred amount of Rs 180, 000—a saving of Rs 25, 775 over and above the bank rate.

illegal transactions precisely because the volume of all their transactions is so large.

The Structure of a Transaction

While they vary somewhat in shape and structure the basic transaction is the same: if “A” is in city 1 and s/he wants to convey something of value to “C” in city 2, A issues an instruction to his/her correspondent in city 2. Let’s call him “B”, to pay “C” the specified amount by charging it against his/her account. This is represented in Figure 1, below.

Figure 1: Structure of a Transaction in a Traditional Remittance Network



The structure of a single transaction in these networks is deceptively simple. Anything of value may be involved: A, the remitter or sender conveys information to his “correspondent”, B to carry out his instructions. This information may be in an email message, a snail mail letter, a hand carried note, a coded phrase

embedded in a letter inquiring about C's mother's health or whatever ("Have you received the leaves for the tea back from Schaffir and Company?") Unless you know the forms of messaging conventionally used by a given pair, these are almost impossible, in themselves, to detect and interpret. To return this money to A, it is either paid by C to B or remitted by C to A through his correspondent D, as shown in Figure 2, α and β , below. The course shown in β is usually followed when the remittance is joined to a commercial transaction or when it is decided to take advantage of differences in the exchange rate between the currencies in city 1 and city 2.

Figure 2 α

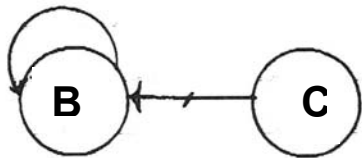
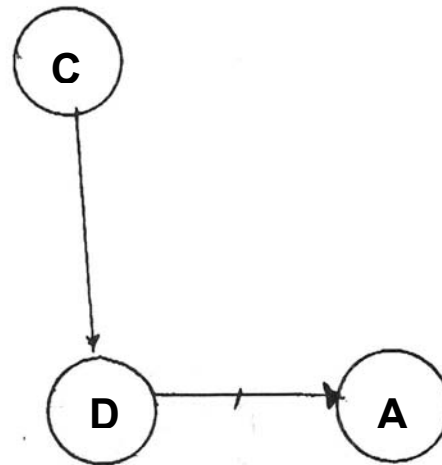


Figure 2 β



The number of possible such interactions in a given remittance network is $N(n-1)$ and the number of sequences $(2)N^2$. Thus for say, a fifteen node remittance network we would have 210 potential interactions and 2^{225} potential sequences

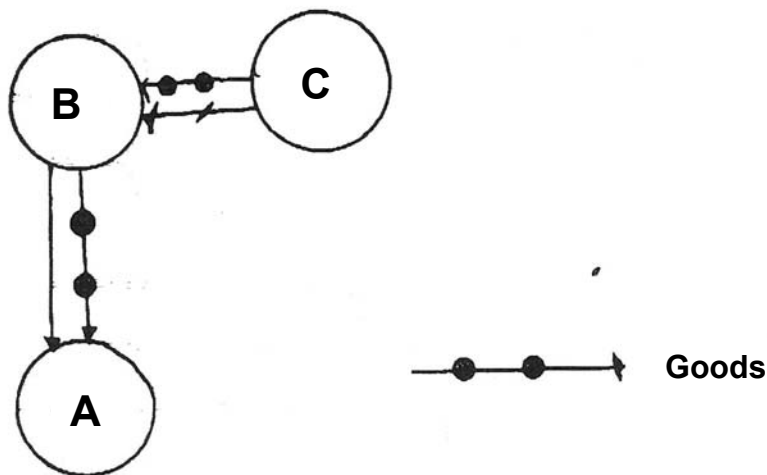
of transactions. As Anatol Rapoport used to say, this is a large number. The density of ties in a network, D , is given as

$$D = \frac{2A}{N(N-1)}$$

where A is the number of actual ties in a network, and N is the number of nodes.

In highly dense networks, such as the one given in Figure 3, below, the environment is information rich and trust is institutionalized. This is particularly true of networks –such as medieval Jewish trading networks—that were institutionalized through marriage (Roth, 1969) . This yields very regular structures (Lorrain, 1975). All groups use some mechanism like this: ties between fathers and sons, round-robin partnerships, and so on. The point is to truly *institutionalize* them so that it becomes virtually impossible for members of the network to take advantage of one another.

Figure 3: Generalization of the Transactions Shown in Figures 1 and 2



Let us assume that one were a member (node) in the network shown in Figure 4x and let us propose that this network is maintained through a series of overlapping partnerships. Let us further propose that you want to put some money in your pocket rather than remitting it to α or crediting it to α 's account. Since you are a member of α 's partnership and s/he is a member of yours, it is almost impossible to conceal the discrepancy—especially if α 's son is married to your daughter and working in your office.⁴ Moreover, if α is able to earn a higher rate or return on invested capital, you might actually be behind. To attempt to calculate this for 2^{225} potential transactions, as Harsanyi would propose, would be computationally impossible. So it is simpler not to try. This institutionalizes trust. Note here that node α is at a central point in the network, either because it enjoys the most favorable for rates of exchange or is the point of origin of most of the transactions. β is at the point of origin of most of the goods being shipped, by value. So, if the cash in flow here is \$ US and the main commodity being shipped is crude oil, α might be in New York (petrodollars) and β might be in Riyadh. 9 might be in London and 10 in Zurich. 15 might be in Egypt and the commodity in flow there dates.

National banks have difficulties tracking these transactions because, as a rule, cash or funds are not being sent between countries, but simply commodities with stated values. Some of these are “dry transactions” — no commodities are being shipped. They are, in effect, loans. Some are “wet transactions”—only goods are being sent. These goods are at a stated value and it is a way of refreshing correspondents' accounts. All these networks at one point or another, get seriously out of balance between any two points. When this occurs, correspondents' accounts have to be refreshed by an actual infusion of something of high value. Gold bars, diamonds, bearer bonds and SDRs are common ways of doing this. This has the disadvantage that, as in medieval

⁴ It is common to dower daughters with a piece of the business under these circumstances as well. So your son-in law is also your partner, to some extent, and his fathers or mothers, as well.

times, couriers can be hijacked. "Dry transactions" are simpler to carry out and, consequently, faster because no goods are being shipped. The Internet has made these almost instantaneous. Normal transactions, which are neither wet nor dry, are really commercial loans on the shipment of goods and take place within specified periods, e.g., 90 days.

Mapping Alternative Remittance Networks

Figure 4 κ , below, is a stylized form of a rather simple remittance network which has been deliberately drawn in such a way as to conceal its structure. Note, even at this point, we can make some sense of the details of this graph. **1** receives information only from **á**. S/he receives cash directly from **2**, **12**, and **á**, however, and indirectly from **4**, **5**, **8**, **9**, **10**, **11**, **13** and **15**. Clearly the banker. **á** is a central organizing figure. **B** simply ships goods and receives cash. S/he is not a player in the alternative remittance network unless she is engaging in wet transactions. If s/he were, in any case, s/he would not be likely to be restricted to these functions. **14** sends goods only to **1**, **2**, **3** and **12**. Each of these, in turn, sends goods to or exchanges goods with **á**. We would speculate from this that much of **14**'s revenue is in the form of entries on **á**'s books. **13** only receives goods. How s/he pays for them remains problematic.

These kinds of observations, while interesting and motivating, are not systematic. To transform this graph into something we can analyze we must have a method that treats the network as a whole. Figure 4 \sqcup shows the information ties of this same network as a binary matrix.

Figure 4x Stylized Network Showing
Flow of Information, Goods and Cash

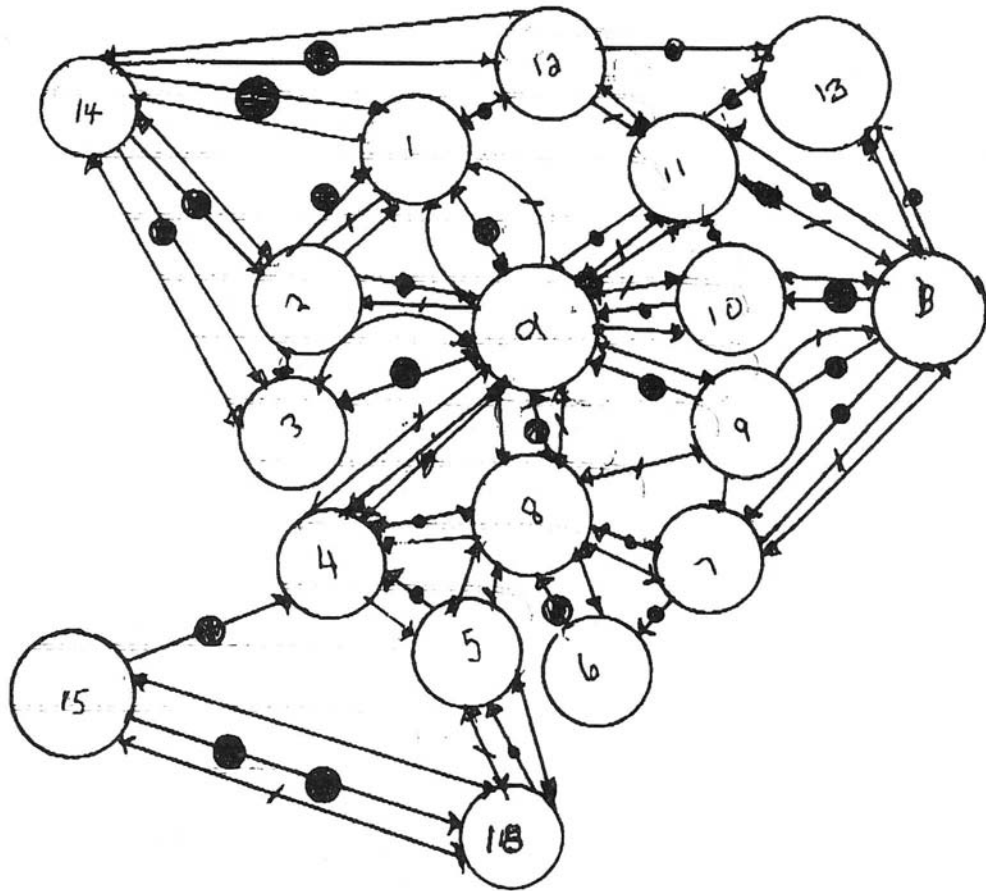


Figure 4 α Flow of Information in Hypothetical Network)

α	α	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	B
1	1	0	1	1	0	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0
2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
3	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
4	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
6	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
8	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
9	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
14	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
B	0	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0

The network shown here is far sparser and more understandable than it would appear as part of Figure 4 κ . Note that the rows and columns corresponding to nodes 16 and 17 are zero-filled. This is because, they have been mentioned in “network chatter” but we have no concrete evidence on where they might fit in. As their ties become clear, they will be added. The same simplification can be done with cash-transfer ties, and commodity flow ties. If we are interested in the flow of funds, all that is necessary is that a given node both send and receive information. For wet transactions, it is necessary to be on the commodity flow network and both sending and receiving. Given knowledge of the target city, this should aid in the winnowing process.

Once these separate matrices have been constructed and understood they can be *superposed* – literally, placed over one another. These superposed networks should provide a detailed picture of a complex role structure. Networks of this kind cry out for blockmodelling. It is a kind of clustering on an unconventional typology which puts together nodes performing the same function vis-à-vis the network as a whole. A hypothesis about the network is developed. The network, in the form of a matrix, is then compared in detail to this hypothesis and a new, reduced network created. There is some disagreement as to whether the presence of lawful ties (Lorrain and White, 1971; White, Boorman and Breiger, 1976) or the absence of unlawful ties (Burt, 1992) is more important in defining a structure. There is also some disagreement as to how much absence of ties is tolerable or presence of unlawful ties is permissible. Both strategies make sense because a network is a snapshot of a structure in time and we cannot expect it to be entirely lawful or it would be static. Note that in Figure 4x there are missing numbers for nodes. This indicates that we think that several nodes are missing. These nodes are most likely to be senders and receivers of cash and goods; since intermediary nodes are a prominent feature of this network. Note that, as small as it is, this stylized network is confusing until reduced to matrices and blocmodeled. Imagine reducing the larger hawala networks –some 2 to 300 nodes--in this fashion without taking a formal and algorithmic approach. As we saw in 4x, simple inspection is anything but simple..

In the case presented here, all channels for the flow of funds have reciprocal channels for the goods. Thus, the commodity channels are simply the reciprocal of the funds flow channels. Networks in which there are both funds flow and goods flow channels are also common. In a perfectly orderly world, every cash flow transaction would have as its reciprocal a goods flow transaction.

Detecting Funds Transfers

The funds transfers used to remit funds to terrorist networks and for other illegal purposes such as money laundering will appear in these networks as unbalanced (non-reciprocal) flows. Where simply cash is being sent in a 4 channel network, this is called a “dry” transaction. Where simply goods are being shipped they are called “wet” transactions. In dry transactions, an instruction is simply sent to remit funds to a third party and expect no return flow of goods. In wet transactions, goods are simply shipped from A to B, sold, and the proceeds given to C. Wet transactions are more common and dry are somewhat simpler to detect. They are of two forms. Let us assume that A is in Saudi Arabia and ships oil to an importer in the US. Oil is shipped, no reciprocal cash flow occurs and the oil is sold and the proceeds remitted to a terrorist in the US. The more subtle form of this same transaction is: let us assume that the world price of Saudi Arabian sweet crude is \$20 per barrel.. Oil is shipped to the same broker in New York and it is valued at \$10 per barrel. The wet component in the transaction (moisture?) is the difference between these two. Even this is not perfectly transparent, however, because, where the network is structured as a series of overlapping partnerships, \$10 might simply have been transferred to the receiving partner’s account in Saudi Arabia. As the volume of such transactions goes up, it is more and more likely, however, that a form of transfer is going on.

In order to detect the transfers in which we are interested, then, we need considerable detailed knowledge of the forms of signaling and conventions of *pairs* of nodes in these networks. So, on the face of it, our problem is somewhat simplified: we do not need to know anything more than where node pairs fit into the larger network, in general. The actual transfers of funds in which we are interested

will take place between a limited numbers of pairs. Thus, we must first, map the entire network. Second, we must winnow out those pairs most likely to be engaged in the transactions in which we are interested from the others and only then, third, study them in detail.

We note , again, that these remittance networks are based on institutionalized trust—often through kinship.⁵ This trust will be stronger and more closely institutionally hedged-in in cases where illegal or questionable transactions are being undertaken. We suspect that this means, in most cases, marriage ties. The way this works is at some point in time A, a merchant, in New York has a son who is about 20 years old. B, his brother or cousin, is in Amman has a daughter about 17 years old. B very seriously restricts his daughter's social contacts and it is a matter of family honor that his daughter is a virgin as befits a middle class as opposed to working class or peasant class girl. A and B are frequently in trade with one another. A sends his son to “study the business” with B. The son lives in B's house, works with him in the shop and may even keep the books. The young people see virtually no one else their own age. After a year or so, the boy goes to his uncle or cousin and asks for his daughter's hand in marriage. Everyone is much surprised.⁶ In the tightest form of this model –the one followed by medieval⁷ Jewish merchants and some Islamic merchants today, B's daughter is dowered

⁵ Jost and Sindu observe “The components of hawala that distinguish it from other remittance systems are trust and the extensive use of connections such as family relationships or regional affiliations. Unlike traditional banking or even the 'chop' system, hawala makes minimal (often no) use of any sort of negotiable instrument. Transfers of money take place based on communications between members of a network of hawaladars, or hawala dealers.”

⁶ In New England they had a custom called “bundling” to help the process along. Male and female cousins would be brought together on weekends and put into the same bed with a bolster down the middle. Such bolsters were said to be the lowest barriers in human history.

⁷ Medieval and early modern merchants issued their instructions in the form of what were called bills of exchange.” Since these, when accepted, were promises to pay at a time certain (“usance”) they became commoditized. When large merchants (e.g., the Mendes, the Medici, and the Fuggers) put them together into a basket of bills in which people could invest, they became monetized. The Medici and the Fuggers even issued currency (“one Medici” or “10 Fuggers”) based on these baskets. This how the commercial banks which emerged out of merchant banks

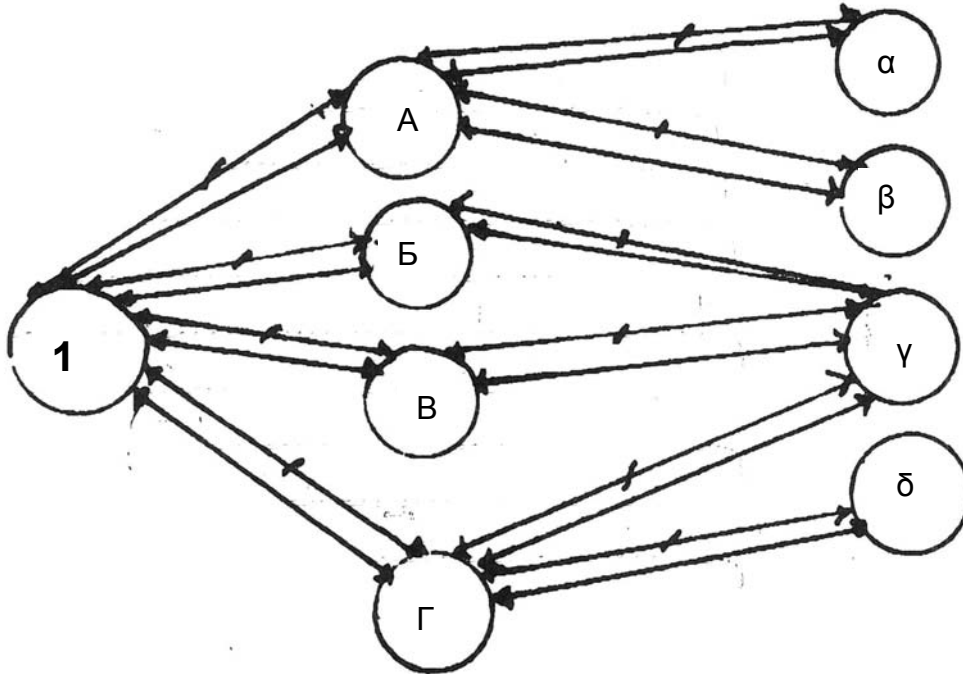
with a share of her father's business. Thus, B's son-in-law is his partner, often his father's partner as well, and the man who keeps B's books. Both A and B have no greater assurance than this that their trust will not be misplaced.

From our point of view this is interesting because it means that we should give nodes joined by kinship ties in general and marriage ties in particular special attention.. We will be aided in identifying them by superposing the kinship network over the general remittance network and utilizing the p-graphs reported by White and Harary (2001) to understand the role of kinship in the remittance network and to identify the tightest pairs. As long as one is able to identify one member of one of these pairs, s/he can begin to winnow out the entire network. Note that, in Figure 3, the network consists of three node chains. This means two pairs, In real world networks, one might have as many as five or six intermediate nodes and three or four recipient nodes in a four channel network; as in Figure 5, below.

began issuing a currency. Many of these bills of exchange are still extant. The Medici collection in the Basement of Baker Library is magnificent, although somewhat dusty. It includes some 15,000 bundles of bills of exchange. There are small – 3 or 4, 000 bills-- collections of the Fuggers' bills and a large proportion of the bills the Gradis family issues to finance new France.

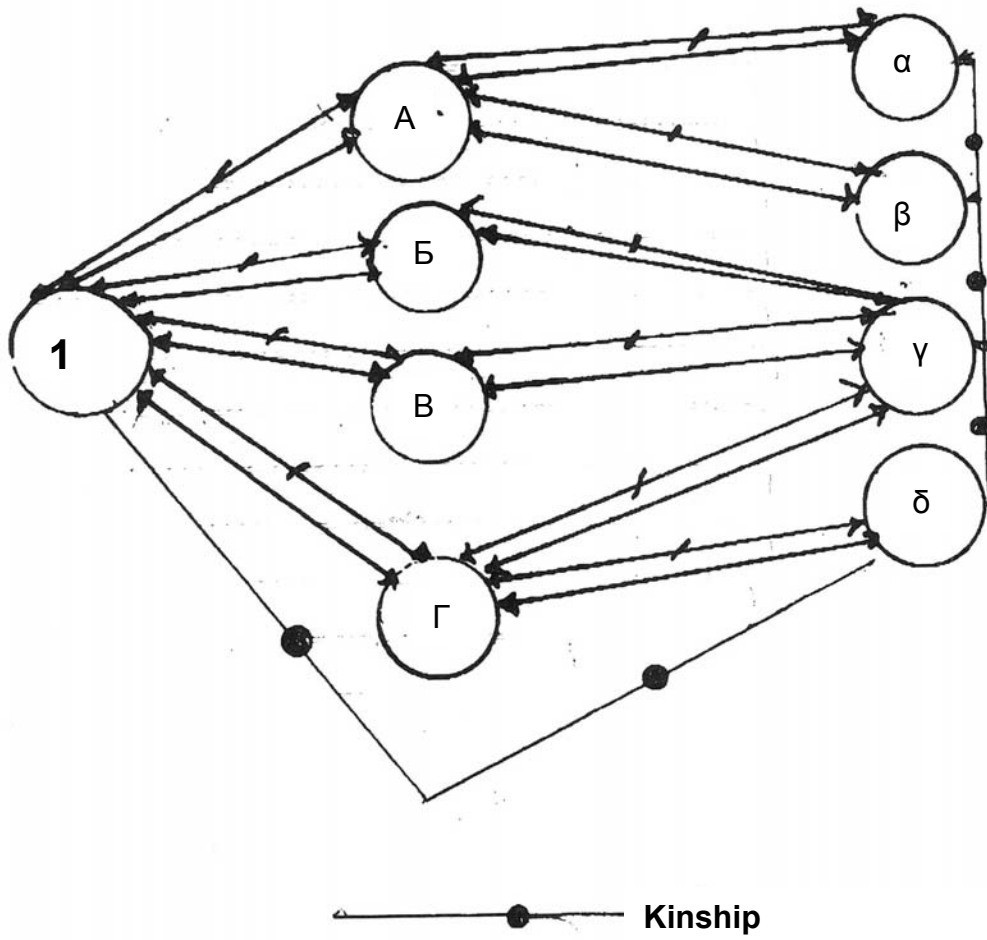
The mechanism of the bill, itself, is much older than these. There are references to bills of exchange in the Babylonian Talmud at the time of the Sura School. The school was founded by "Rav" (Actual name: Abba Arikha), who died in 247. The Babylonian Talmud was

Figure 5: Small Remittance Network



Note here that the network is four-channel (goods and cash can flow in both directions) and some of the intermediate nodes are connected to more than one final node (α , β , γ , and δ). Figure 6, below, shows the same network with kinship superposed. Here it is clear that nodes A, Б, B, and Γ are what are called “factors,” they are hired hands who perform functions for a group of kin – connecting A to his or her kin in a distant city or cities.

Figure 6: Small Remittance Network
with Kinship Ties Superposed



Alternative Remittance Networks and Terrorism

In addition to being efficient and inexpensive , as we see in the example provided by Jost and Sindu, transactions in these networks are virtually anonymous. They are not illegal in the United States unless they involve money laundering or some other illegal purpose. As in the case of Jost and Sindu's cab driver, they can be used without raising anyone's suspicions. It is estimated that tens of millions of these transactions either originate or terminate in the United States each year; involving hundreds of millions of dollars. Unless they accompany a transfer of goods, they are virtually invisible to the balance of payments calculations. In many cases, merchants do not even record a transaction, but simply change the balance on their records of their accounts on a correspondent's books. These are periodically compared with one another.⁸ Thus, seizure of their records will have little evidential value.

In the normal course of events, these transactions accompany other mercantile activity. As a result, virtually anyplace in the United States where special foods or newspapers or other goods from points of national origin are available, these systems are accessible. They are found among a wide variety of immigrant communities in the US and are integral to them. Migrant workers from these communities, in particular, make extensive use of them.⁹ .

⁸ Now, with the Internet, this can be done virtually at will. We are told that there seldom are discrepancies.

⁹ See Murshid, K. A. S., Kazi Iqbal, Meherun Ahmed Dhaka, 2001; Suchada Tantasuroek, 1992.

One source of funding for terrorist groups in general and Jamas, Hezbollah and Al Qaida, in particular, is a variation on the protection rackets made famous by *la Cosa Nostra* families in New York and Chicago. It is centered in the American Midwest in cities like Detroit and Toledo. The way it works is this: large men in business suits or intense young men in groups of three or four go into the store of a particular shopkeeper and excoriate him for failure to support The Cause. It is pointed out that his or her business is dependent on the good will of members of the particular ethnic group at hand. Fifty or a hundred dollars a week will make him look like a good member of the group. Each week one of the large men will come by to collect. The shopkeeper pays for this by running a second register with no tape in it until he reaches his or her quota.¹⁰

These funds are then remitted to the particular group in mind by merging them with legitimate transactions. The problem is that these transfers are not being used to purchase goods and merchants in the US may be drawing extensively on their accounts with their correspondents. This makes it necessary to do an actual physical transfer. In Detroit there was a currency dealer who bought up Canadian dollars from Islamic Detroit merchants—paying a slightly better rate than the bank rate. After he had accumulated about \$ 10, 000 Canadian, he would pack it into a briefcase and drive over the Peace Bridge to Windsor, Ontario and sell it to a local merchant at slightly less than the chartered bank rate. This was possible because he would be paid in US dollars accumulated by that merchant in Canada.¹¹ For a

This makes them ideally suited to illegal immigrants, of course, because the kind of tracing of official transactions which might uncover them is not possible where no record of transactions is kept.

¹⁰ This is a source of vulnerability because, of course, no sales tax is being paid on these transactions.

¹¹ Canada keeps careful track of legitimate bank transactions through a branch of Statistics Canada called the Balance of Payments Monitoring Division. This is necessary because 80% of the Canadian economy is involved, directly or indirectly, in foreign trade. The comparable number for the US is 20%. 80% of this is with Canada. Thus, only 4% of the US economy is involved in foreign trade with countries other than Canada. Thus, it really rankles Canadians when American president after American president refers to Japan as “our largest trading partner.” It is strategic, however, that a fair share of transactions with countries other than Canada has to do with purchases of oil.

small fee, the currency dealer and merchant would also buy a bank draft in US dollars from a Canadian Chartered Bank. This would then be sent by courier to a correspondent in Dubai who would transmit it wherever the originator wanted it to go. . For very large transactions, payments were merged with donations from US-based foundations to various Islamic charities which, after a small toll, would pass item on to the target group. It is estimated that several million dollars a week were transmitted to terrorist groups by these various means from Detroit and Toledo alone.

The international center for alternative remittance networks today, as Meenakshi Ganguly observes, is Dubai. There are several reasons for this. First, as an oil-rich emirate it is awash in petrodollars. Since the point of origin or terminus of many of these transactions is the United States and since many in Dubai use US dollars as an international reserve currency, large transfers to or from the United States can be made by simply moving money from one side of a ledger to another. Second, Dubai is an absolute free zone with respect to currencies. Arbitrage, we are told, is done in Dubai in more currencies than in Switzerland. Europe, another important point of origin or terminus of these transactions, is now as accessible as the US via the Euro. Third, the flow of oil from Dubai is large enough to cover a wet transaction of any size and the returning revenue can be used to conceal large transfers. Finally, there is virtually no bank regulation so that if actual visible transactions have to take place, the banks in Dubai are not cooperative with foreign investigators.

There are indications that four major kinds of remittance networks come together in Dubai: the “Arab Network” whose centers are in Saudi Arabia, Jordan, Syria, Palestine and Lebanon (and covered Iraq at one time), the “Pakistani Network” which is widely dispersed throughout the world including sites in the United States,

Britain and Continental Europe, the “South Asian Network” which includes the Philippines, and the “Lebanese Diaspora Network” which includes Lebanon, the United States, Germany, France, Tunisia, Morocco, Spain, South Africa, Kenya, and Ghana.

Conclusion

We have seen that alternative remittance systems are highly formalized through local contracts, kinship and marriage, friendship, common business arrangements, partnerships, ethnicity and religion. Before the emergence of modern fiduciary institutions, they were the only remittance system. In the West, they were referred to as “merchant banks” because they did banking on commercial credit.¹²

In many parts of the world, these systems are predominant today. They have persisted because they are fast, inexpensive, and reliable. Modern communications have made them faster, less expensive and more reliable. In particular, the emergence of the Internet has been extremely beneficial to them. They are virtually invisible. In many cases, merchants do not even record a transaction, but simply change the balance on their records.

These systems are common today among Indians or Parsees, Arabs, Pakistanis, overseas Chinese, and a variety of other groups. In the normal course of events they are an outgrowth of other mercantile activity.

Effective contemporary alternative remittance networks today tend to be institutionalized through one or another form of kinship. They succeed in disguising illegal transactions precisely because the volume of all their transactions is so large. These remittance networks are based on institutionalized

trust. This trust will be stronger and more closely institutionally hedged-in in cases where illegal or questionable transactions are being undertaken.

Invigilating this activity demands a careful winnowing out of node pairs. Those involved in money laundering or remittances to terrorist groups will, per force, have to be extremely tight. This means in most cases, they will be kin. The tightest form of this is intermarriage in the same way that it took place among medieval Jewish merchants. We know of several trade-facilitating marriages like this among Pakistanis and Parsees. They reportedly are very common among Lebanese Muslims and North African Arabs.

In principle, the growing reliance of these systems on the Internet should make them easier to oversee. But, in practice, questionable node pairs, in particular, will be using exotic personal codes which will be periodically changed. Whenever one member of these node pairs is identified, all his/her activity should be examined carefully for others in an attempt to reconstruct the network of which they are a part. The structuration of these networks should follow extremely orderly principles.

¹² Modern merchant banks are quite something else. See Wechsberg, 1966; Carosso, 1970.

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