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Albert L. Gareis

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## Foreign-Exchange Arbitrage in Joint Accounts

By ALBERT L. GAREIS

Although a number of good books and many articles on foreign exchange have been published, the feature of record keeping is seldom discussed.

The transactions relating to foreign exchange in general are so diversified that it is impossible to include all of them in one treatise, but it is necessary to discuss the principal classes of accounts kept in banking concerns which deal in foreign exchange to reach a full understanding of the peculiarities of foreign joint accounts.

It is known that double-entry bookkeeping originated in Italy. Therefore the commercial, industrial and financial establishments of continental Europe still adhere to Italian terminology, and the majority of American banking concerns, in accord, use similar terms in relation to foreign-exchange transactions.

There are three classes of accounts, each of which can be subdivided into various sub-classes according to individual requirements. The three principal classes are:—

1. *Conto Nostro* (our account).

This contains all transactions which one bank orders performed by its correspondent. All *nostro* accounts are kept in foreign currencies with a dollar equivalent based on cost, current market rates or a standard rate. At the present time the latter form cannot be used because the values are subject to broad fluctuations.

As these accounts represent "our account with a foreign concern," the entries in dollars are made for accounting purposes. They furnish the means of determining the profit or loss on consummated transactions.

In this respect the *nostro* accounts can be compared with the trading accounts of stock-brokerage houses—that is, the balance in foreign currency represents an asset or liability in the respective currency.

If such a balance is converted at cost or current market rates the difference between the amount thus obtained and the dollar balance of the account is the profit or loss on all closed transactions.

It is very important to keep an accurate control over the foreign currencies, as an error in posting or footing will affect the profit

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and loss account as well as the asset value or the amount of liability. Few banking concerns maintain a control system of foreign amounts. Therefore serious discrepancies occur which are not brought to light until a statement is received from the foreign correspondent.

A simple method of controlling the foreign currencies can be easily installed by keeping a position book as illustrated in form 1.

Form 1

CR.												DR												
MARKS-Position																								
DATE	DESCRIPTION	NOSTRO	FUTURES	SECURITZ	META	LONG	SHORT	NOSTRO	FUTURES	SECURITZ	META	DESCRIPTION	DATE											
4/10	Bal	100000	100000	100000	100000	120000						100000	Cash Stmt	4/10										
4/10	Cash Stmt											100000	Journal	4/10										
4/10	Journal	2000				2000								4/10										
FRANCS-Position																								
4/10	Bal	100000				100000	20000	20000				20000	Cash	4/10										
4/10	Cash Stmt													4/10										
CZECH-KRONEN-Position																								
4/10	Bal	100000	100000			120000	10000	10000				10000	Cash Stmt	4/10										
4/10	Cash Stmt	100000				100000								4/10										

This book shows the long positions on the credit side and the short positions on the debit side. Otherwise the manner of recording is almost identical with that used in posting to the stock ledger in stock-brokerage concerns. The position book will contain the *contra* entries in total to all foreign amounts posted to individual *nostro* accounts.

It must be understood that this position book will not serve the trader if he wants to speculate by taking advantage of his floating long and short positions. If this is required the trading department will be compelled to keep a book indexed by foreign banks and containing columns to accommodate the "floats" and "arrivals."

Under normal conditions steamer schedules would furnish exact dates of mail distribution in all parts of Europe, but at present these dates are problematical and the trader is compelled to allow for a generous safety margin. As it is not within the scope of this treatise to deal with the speculative feature it is not necessary to go further into detail on this phase.

### 2. *Conto Vostro* or *Conto Loro* (your or their account).

These accounts are kept in dollars only. They represent the account of a foreign correspondent with a domestic institution.

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3. *Conto Metà* (joint account).  
 a. "Our lines."  
 b. "Their lines."

Joint accounts are the terror of all bookkeepers. It requires considerable skill and experience to keep them correctly. Errors are easily made and it often occurs that oversights on the part of foreign correspondents cause discrepancies to be buried forever.

Such accounts are usually kept in two sections.

"Our lines" contain all transactions originating or settled on this side, whereas "their lines" show all purchases or sales made by the foreign correspondent.

Therefore "our lines" are kept in dollars and "their lines" in foreign currencies without dollar equivalents.

If a joint account is closed it will show a profit or loss in dollars and in foreign currencies. The former will be transferred partly to profit and loss and partly to the respective *vostro* account; the latter by the foreign correspondent to his profit and loss and to the *nostro* account.

As a rule the basis of apportioning profits or losses is 50 per cent. to each participant. (*Metà* = half.)

A profit or loss in dollars will result if the transactions are covered for the same amount as charged or credited by the foreign bank on "their lines." If the same dollar amount is used as is shown on "our lines," a profit or loss in the foreign currency used by the correspondent will be shown.

The manner of covering or disposing not being the same for all transactions, profits or losses on both lines will be the result when the accounts are closed.

It is apparent that both lines of joint accounts are in close relationship to each other, and therefore it is better to keep both on one sheet as shown by form 2. The introduction of the position-

Form 2

DR	<i>Bank of America</i> JOINT ACCOUNT												CR.				
DATE	PURCHASES SUNDRY CURRENCY	THRU MONEY	SECURITIES	PRICE	DESCRIPTION	AMOUNT	OUR LINES		SALES		THRU MONEY	SECURITIES	PRICE	DESCRIPTION	AMOUNT	OUR LINES	
							DATE	\$	DATE	SUNDRY CURRENCY						DATE	\$
7/1	100.00				Bank of Am.	100.00	7/1	100.00	7/1	100.00				Bank of Am.	100.00	7/1	100.00
7/2	50.00				Bank of Am.	50.00	7/2	50.00	7/2	50.00				Bank of Am.	50.00	7/2	50.00
7/3					Bank of Am.									Bank of Am.			
7/4					Bank of Am.									Bank of Am.			
7/5					Bank of Am.									Bank of Am.			
7/6					Bank of Am.									Bank of Am.			
7/7					Bank of Am.									Bank of Am.			
7/8					Bank of Am.									Bank of Am.			
7/9					Bank of Am.									Bank of Am.			
7/10					Bank of Am.									Bank of Am.			
7/11					Bank of Am.									Bank of Am.			
7/12					Bank of Am.									Bank of Am.			
7/13					Bank of Am.									Bank of Am.			
7/14					Bank of Am.									Bank of Am.			
7/15					Bank of Am.									Bank of Am.			
7/16					Bank of Am.									Bank of Am.			
7/17					Bank of Am.									Bank of Am.			
7/18					Bank of Am.									Bank of Am.			
7/19					Bank of Am.									Bank of Am.			
7/20					Bank of Am.									Bank of Am.			
7/21					Bank of Am.									Bank of Am.			
7/22					Bank of Am.									Bank of Am.			
7/23					Bank of Am.									Bank of Am.			
7/24					Bank of Am.									Bank of Am.			
7/25					Bank of Am.									Bank of Am.			
7/26					Bank of Am.									Bank of Am.			
7/27					Bank of Am.									Bank of Am.			
7/28					Bank of Am.									Bank of Am.			
7/29					Bank of Am.									Bank of Am.			
7/30					Bank of Am.									Bank of Am.			
7/31					Bank of Am.									Bank of Am.			

control book mentioned previously serves as a control over the sundry foreign currencies or securities bought and sold for the joint accounts as well as for the foreign currency of "their lines."

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Most transactions for joint accounts are executed by cable. Letters confirming the cable orders designate the accounts affected and contain full details concerning the transaction. As a rule printed forms are used which read approximately as follows:

“We have purchased (sold).....  
and we debit (credit) our lines.....”  
or  
“You have purchased (sold).....  
and debited (credited) your lines.....”

From this it will be seen that, although one side plays a passive part when the transactions originate, it will be active in settling the transactions, when the original purchase or sale is covered.

A concrete case may serve as illustration.

A European bank secures a certain amount in currency of a third nation for the joint account with an American bank. The latter is charged on the European lines and therefore must credit the European bank, but it must also show that a certain amount in the third currency was placed at its disposal. Up to this point no dollar values are involved and it is not necessary to apply any unless the amount was credited to the New York institution on one of its *nostro* accounts. The joint account is kept free of dollar entries in all circumstances.

If the market is favorable, New York will sell the foreign currency in New York and collect dollars which must be credited to joint account, New York lines, which will also be charged for the cost in dollars of the remittance to Europe needed to cover the original purchase. If this remittance simply covers the same amount in foreign currency, a profit or loss in dollars will be shown on “our lines.”

In order to keep a clear and trustworthy record of complicated arbitrage transactions in joint accounts, a special form for joint account ledger sheets was designed (form 2) which combines both lines and shows the condition of the entire account at a glance.

The following example of a four corner arbitrage\* transaction may serve as an illustration for the functioning of the accounting method:

\*Arbitrage in foreign exchange is a means by which exchange may be secured in foreign countries at rates below the local market.

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PARITY SCHEDULE

	New York market rates per 100	Berlin parity per 1.00	Berlin market rates per 1.00	New York parity per 100
Czecho kronen .....	2.00	1.33	1.25	1.87½
German marks .....	1.05	....	....	1.50
French francs .....	5.80	3.86	4.00	6.00
U. S. dollars .....	....	66.66	66.66	....

From the above schedule it will be seen that Czecho kronen are cheaper in Berlin than in New York, whereas the opposite is the case as regards French francs; therefore "Y. & Co." in New York ask the "Berlin bank" in Berlin to purchase Cz. Kr. 100,000 for joint account. The Berlin bank agrees to buy the kronen provided their purchase is covered in French francs. After securing the kronen in Berlin and the francs in New York, Y & Co. sell the kronen in New York and the Berlin bank sells the francs in Berlin. The entries to record the above transaction will be as follows:

PURCHASE OF CZECHO KRONEN IN BERLIN AT 1.25

Dr	Berlin bank joint a/c "their lines" .....	Cz Kr 100,000	
	Mark position—joint account .....	Marks 125,000	
	Böhm. escompte bank (nostro) .....	Cz Kr 100,000	\$1,875.00
Cr	Czecho kronen position (joint a/c) .....	Cz Kr 100,000	
	Berlin bank joint a/ "their lines" .....	Marks 125,000	
	Czecho kronen position (nostro) .....	Cz Kr 100,000	
	Cables bought payable—(joint account purchases) .....		\$1,875.00

PURCHASE OF FRANCS IN NEW YORK AT 5.80\*\*

Dr	Berlin bank joint a/c "our lines" .....	Fcs 32,345	\$1,875.00
	Francs position—(nostro) .....	Fcs 32,345	
Cr	Crédit Parisien (nostro) .....	Fcs 32,345	\$1,875.00
	Francs position (joint) .....	Fcs 32,345	

NEW YORK SELLS 100,000 CZECHO KRONEN AT 2.00

Dr	Czecho kronen position—(nostro) .....	Cz Kr 100,000	
	Cables bought payable (joint accounts) .....		\$1,875.00
	Cables sold receivable (joint a/c sales) .....		\$2,000.00
	Czecho kronen position—joint account .....	Cz Kr 100,000	
Cr	Berlin bank joint a/c "our lines" .....	Cz Kr 100,000	\$2,000.00
	Böhm. escompte bank (nostro) .....	Cz Kr 100,000	\$1,875.00

BERLIN SELLS FRANCS 32,345 AT 4.00

Dr	Berlin bank joint a/c "their lines" .....	Marks 129,380	
	Francs position—joint account .....	Fcs 32,345	
Cr	Berlin bank joint a/c "their lines" .....	Fcs 32,345	
	Mark position joint a/c .....	Marks 129,380	

\*\*The amount of francs to be bought is ascertained as follows—Calculate dollar amount needed to buy marks 125,000 at 1.50 equals \$1,875.00; convert \$1,875.00 into francs at the current rate of exchange, which is 5.80, equals francs 32,345 (approximately).

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If all transactions are settled the same day the entries can be made as follows:

1	Berlin bank (joint a/c) "their lines" . . . Cz Kr	100,000	
2	Berlin bank (joint a/c) "our lines" . . . Fcs	32,345	\$1,875.00
3	Accounts receivable . . . . .		2,000.00
4	Berlin bank (joint a/c) "their lines" . . . Marks	129,380	
1	Berlin bank joint account "their lines" . . . . . Marks	125,000	
2	Crédit Parisien (nostro) . . . . . Fcs	32,345	\$1,875.00
3	Berlin bank (joint a/c) "our lines" . . . . . Cz Kr	100,000	2,000.00
4	Berlin bank (joint a/c) "their lines" . . . . . Fr	32,345	

To afford a clearer view of the various transactions, the *contra* entries to the position book were omitted. In actual practice these *contra* entries will be made for the totals appearing in the respective columns on the daily record of "cables bought" and "cables sold" (entry 1 will be made under "cables bought"; entries 2, 3 and 4 under "cables sold" on the respective sheets.

As will be seen by reference to form 2, the foreign currencies pair off in the debits and credits—"our lines" show a profit of \$125.00 and "their lines" a profit of Marks 4,380.00.

For the purpose of demonstration the most complicated set of transactions was selected. As a rule the purchase of the amount in foreign currency is subject to draft immediately and is not included in the *nostro* balance of a third bank unless the party to the joint account, which is supposed to sell the currency, acquires it for its own use.

It must also be understood that the above entries are not made simultaneously, as the joint account can remain long or short for an indefinite period.

To reduce the amount of postings to general ledger control accounts and to the position book, especially designed daily record sheets can be installed so that all control accounts and position sheets will contain few entries.

If a joint account is to be closed, all cable and other charges, as well as interest items, are entered by both lines, unsettled transactions carried forward as a balance and the resulting profit or loss is transferred to the *nostro*, *vostro* and profit and loss accounts. The following entries would apply to the accounts containing the transactions described above:

Dr	Berlin bank—joint a/c—"our lines"	\$10.00	
Cr	Cable expenses		\$10.00
Dr	Interest account	.55	
Cr	Berlin bank (joint a/c) "our lines"		.55
Dr	Berlin bank (joint a/c) "our lines"	115.55	
Cr	Berlin bank—vostro		57.78

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Cr	Profit and loss—joint accounts		57.77
	To close the joint accounts on "our lines" of April 30, 1919		
Dr	Berlin bank—nostro	Mks 2140.39	32.10
	Marks position (joint account)	Mks 4380.00	
Cr	Marks position—nostro		2140.39
	Berlin bank (joint a/c) "their lines"		4380.00
	Profit and loss on joint accounts		32.10
	To close the joint account on "their lines" as per their letter dated April 30, 1919, viz:		
	Debit bal. on a/c	Mks 4380.00	
	Cr. for cable charges	Mks 100.00	
		Mks 4280.00	
	Debit for interest	Mks .78	
		Mks 4280.78	
	Net debit balance	Mks 4280.78	
	Less—Berlin share 50%	Mks 2140.39	
		Mks 2140.39	
	Our share	Mks 2140.39	
	Credit P & L for Mks 2140.39 at 1.50		\$32.10

The entries posted to forms 1 and 2 will show that, by the above method, a clear view of the position is furnished for the trader and that the various transactions can be easily followed through their successive stages on the joint ledger account.