COUNTERTRADE IN A TRANSITIONAL MARKET ECONOMY: THE CHINESE EXPERIENCE

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Introduction

The processes of internationalisation and market reform are occurring rapidly in China and other transitional market economies (TMEs). TMEs are the new socialist market economies born out of centrally planned economies after the recent break down of communism in Europe and in parts of Asia. Countertrade (CT), in its purest form, is the exchange of product for product rather than product for currency in conventional trade. The basic incentives to countertrade relate to the likelihood that the economies of developing countries, centrally planned countries and transitional market countries are dominated by foreign exchange shortages or a strong desire to conserve foreign exchange reserves. The importance of CT is that it is estimated at 20% of global trade and is increasing (Simpson, 1995).

The broad components of CT are barter, counterpurchase, buyback and offsets. Barter is the purest form of CT. It is the simple exchange of one product for another under one contract. There is no exchange of currency. Counterpurchase is a more complex form of barter. The deals are usually completed over more than one year. In counterpurchase more than one contract is involved as the sale of one product becomes conditional on the purchase of another. The products exchanged may be complementary in nature. There may be a currency exchange to make up for any shortfall in values of product exchanged. Buyback deals are even more complex than counterpurchase. There is also more than one contract involved. There can be a portion of currency exchange. The deals may take many years to complete. A typical buyback deal would involve a DC multinational becoming a joint venture partner in a manufacturing facility in a less developed country (LDC) or in a centrally planned economy (CPE). The multinational accepts payment for its investment in the product of the joint venture. There is usually a deferred dividend flow from the joint venture security. This form of trade also involves transfer of technology to the importing country. Offset is government mandated CT. It usually involves more than one contract for 'big ticket' products of a defence nature and may take many years to complete. There may be a component of currency exchange. A typical offset deal would involve for example, the establishment by a western government

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of an aircraft componentry manufacturing facility in an LDC in exchange for certain economic benefits. Such benefits would include favoured trading status in the importing country. Again, there is necessarily a technology transfer involved in favour of the importing country.

Notwithstanding the various economic arguments against CT (such as large transaction costs and bilateralism), the motivations of liquidity conservation and wealth maximisation in practice, are sufficient conditions to bring a DC and an LDC or a DC and a CPE together to countertrade. That is, short term liquidity requirements of one party may be matched with share value maximisation motivations of the other party through CT.

Various theories have assisted in the evolution of modern CT theory, particularly where one of the parties is a DC, or a DC firm and where the law of comparative advantage and the minimisation of transaction costs are dominating motivations for trade. CT theory derived from economic theory relates to the utility of barter deals (Edgeworth, 1881), the signalling hypothesis in counterpurchase deals (Murrell, 1982) and risk sharing for export sales (Amman and Marin, 1994). The utility of barter deals presents a game theory model where two traders trade different quantities of two products according to their own levels of satisfaction. The signalling hypothesis applies to buyback (joint venture) and offset CT and is based on the assumption that the product concerned has a certain quality which the original supplier knows and can signal to potential buyers with trademarks and guarantees. Risk sharing for export sales may explain the motivations for counterpurchase CT. In this model risk is reduced by providing information on future market conditions and by offering insurance against random fluctuations in market prices. Finance theory may explain in a more practical way, western motivations for CT acceptance from TMEs. (Simpson, 1995). A portfolio theory and practice approach for western buyback/joint venture and offset CT would see western firms diversifying away the unsystematic risk components of CT. Exchange option pricing theory and practice would see the risk of CT in barter and counterpurchase transactions being managed by put or call options on the asset which is in fact the price of one product in terms of another. (A product exchange rate). It is suggested that CT arrangements are requested or imposed by TMEs on other countries who will either accept or reject these arrangements based on certain economic criteria.

This paper is organised as follows: We commence with an investigation of CT policy and practice in China. We then discuss issues, methodology, data and preliminary results. Comment on the findings is then made followed by our conclusions.

Chinese CT Practice, Policy and Issues

This section examines the practice and policy relating to CT in China as an example of a TME. The development of CT practice and policy is explored in the context of the current economic and political environment in China. As mentioned earlier, the major issues involve who countertrades with whom and in what form. The Chinese economic and trade data in the following pages are extracted from various issues of *Countertrade Review* and *Countertrade and Offsets Intelligence* published from 1989 through to 1993.

Practice and Policy

Whilst China had been a trading nation for centuries up until the communist revolution, CT as recognised in the modern sense, commenced after the founding of the People's Republic of China in 1949. It was then conducted predominantly through barter clearing accounts with the then Soviet Union and Eastern European countries. Policies introduced after 1979 saw China dealing with other countries as well as a means of expanding exports, correcting trade imbalances, opening new markets, conserving foreign exchange, assisting to solve capital shortages and improving relationships with other countries.

After 1985 foreign trade corporations were allowed to operate in China to handle CT transactions. The Government authorised the Ministry of Foreign Economic Relations and Trade (MOFERT) to administer CT activities and to provide consulting services. The criterion was that such activities were not to hinder traditional trade. During the early to mid 1980s barter trade through clearing accounts was the most common form of CT. Buyback, particularly with the United States of America (USA), emerged strongly in 1988/89 as a means of gaining capital and technology in manufacturing without the expending of foreign exchange reserves. At the time it was felt by many that China would turn to the Soviet Union for trade. Others expressed the strong view that it is only the west that can provide technology, expertise, capital and hard currency that China needs to survive and grow. During this period border trade with the Soviet Union was estimated at USD3 billion. The reason was that neither the Rouble nor the Renminbi were fully convertible currencies.

In November 1989 MOFERT banned foreigners using Renminbi to buy domestically produced goods for export. However, it was announced that Chinese foreign joint ventures which achieve a surplus in profit in Renminbi will be exempt. Also exempted will be those joint ventures that have permission from MOFERT. It was also announced by the Government that the Bank of China would extend credit to USD 100 million over the next four or five months to those joint ventures affected by Beijing's austerity programs. The loans were to be used for plant expansion and capital construction. Policy was beginning to shift and offers for joint ventures would receive more sympathetic consideration in China than offers based on conventional financing. The Chinese government said that it wanted to maintain its existing levels of international trade without depleting foreign currency reserves.

A shift in the emphasis on CT by barter and counterpurchase rather than by buyback had become apparent. It was also observed that DCs without in-house trading facilities would need the assistance of a specialised trading house experienced in

Chinese CT if they were to be successful in China. Examples given of successful companies were Nissho Iwai Corporation of Japan, Standard Chartered Bank and AWT Services in Hong Kong. In March 1990, at the National People's Conference in Beijing, the Chinese Minister of Foreign Economic Relations announced amendments to the guide-lines for joint ventures. Since 1979 foreign joint ventures had to revert to Chinese ownership after 30 years. This requirement has now been removed.

The Commercial Industrial Bank of China in Huang Yujin in 1992 decided to give support and backing to economic cooperation between China and Russia. Six hundred million yuan would be allocated to its branches bordering Russia. This was to finance border trade or barter deals as well as hard currency deals.

The Beijing International Barter Trade Corporation (BIBTC) had been originally established in the early nineties to promote CT. The limited availability of adequate product for CT in China was hindering its development. CT had developed from bilateral clearing or barter trade with the Soviets and Eastern Europe. It was likely that this form of CT would decline in ensuing years. However, China still had a large requirement for modern technology. It was expected that buyback or compensation type CT would continue to be strong in the absence of surplus hard currency. The BIBTC is the sole authority for Russian barter trade in Beijing. However, many of the agreements in 1991/92 had not been fulfilled. This was due to hold ups in relation to political and economic changes and restrictions imposed by the Russian Government on certain types of deals.

This section has provided further insight into the current political and economic environment in China. It has also highlighted some of the problems that have emerged as China comes to grips with its transition to internationalisation. The new transitional market economies in Asia and Eastern Europe are using CT for economic development in the absence of large reserves of hard currency. Thus the scene is set to now investigate with empirical research the issues of who countertrades with whom and in what form, using China as our example of a TME. We firstly summarise the issues in the next section.

The Issues

The foregoing literature suggests that barter and counterpurchase import finance is being used between China and neighbouring TMEs and some LDCs to conserve foreign exchange reserves for more pressing purposes. These purposes relate to maintaining the momentum of industrial and economic development. Such arrangements seem unavoidable when there is lack of convertibility of currencies and when basic requirements of food and clothing are to be met for large populations on both sides of the CT deal.

Historically, strong CT import financing ties have developed over time by China between neighbouring CPEs and TMEs. This is due principally, to the lack of convertibility of the Renminbi and the other respective currencies. As discussed in the earlier literature review. Hennart (1990) found evidence to support there being lower levels of barter trade between OPEC and DCs. He also showed that there was a correlation between indebted countries (lower credit rated countries) and a propensity to countertrade by way of barter. Moreover, the relationship between debt and CT should be greater for barter than for counterpurchase or buyback. In addition, buyback will be disproportionately imposed by countries that ban incoming FDI, when an overwhelming proportion of buybacks were imposed by CPEs. In fact CT will be disproportionately used by countries that ban incoming FDI. Evidence also suggested that offsets are overwhelmingly used by DCs with LDCs. Further systematic analysis is needed at the disaggregated level on differential use of CT by particular groups of countries. These are very important issues relating to CT and undoubtedly need more careful systematic examination.

A similar investigation to ours was undertaken in China by Palia and Shenkar (1991). This showed the dominance of buyback contracts with the United States. The US were involved in 26 out of 80 transactions surveyed for 1988 and 1989. Their evidence indicated that buyback (compensation or joint venture) deals with the United States totalled 17, in 1988 and 1989. In those years, there were 5 Offset contracts with the United States. Palia and Shenkar indicated that the number of United States transactions as a percentage of the total was 32.5%. They also reported that the number of Soviet contracts, as a percentage of the total, was 11.25%. All of these deals were either barter or counterpurchase (barter or clearing agreements). Most CT contracts involved the United States (18) and were negotiated in 1988.

The preceding literature indicates that barter trade with the Commonwealth of Independent States (CIS) has been a primary thrust of trade policy. In addition, large numbers of joint venture arrangements are being approved and that foreign investment is growing strongly. It may be that DC firms see the opportunities for market and wealth maximisation. It may be that they willingly accept the request for or the imposition by China, of buyback and offset import financing arrangements. Evidence from the literature indicates a growing strength in bilateral trade with the United States in joint ventures and government mandated CT arrangements. Offset import financing is relatively new to China and there is not much evidence in the literature on offset arrangements.

Thus, in the context of China, the issues that naturally emerge are as follows. Do TME importers actually request particular types of CT financing arrangements on particular country groups? Do TME importers actually request particular types of CT financing arrangements on particular countries within those groups? Are there any other explanations regarding the particular types of CT and country groupings? We attempt to analyse these questions systematically subsequently.

Methodology, Data and Preliminary Results

This section provides a description of the methodology and data used in the survey into Chinese CT. The survey is based on historical data obtained from published sources of Chinese CT transactions for the years 1989 to 1993 inclusive. Given the nature of the data for the survey it is indeed very difficult to employ rigorous statistical analysis. We have, however, used simple descriptive and inferential statistics to quantify some of our results. For our purpose, we use the base system statistical software package of SPSS for Windows, version 6.0.

Methodology

Initial insights into the results obtained from the sample were taken from frequency tables for each of the variables selected for investigation. Where possible the results have been subjected to more formal statistical tests under the assumption of normality. In some cases where the distribution of population seems non-normal we use non-parametric tests. These tests have distinct advantages in terms of (i) greater efficiency in long tailed distributions including the case of outlier contamination; (ii) validity, in the sense that their confidence level (or type 1 error level) really is exactly as specified; and (iii) ease of computation.

On methodology we would like to add that it remains difficult to express CT transactions in money terms because statistics in many countries, including China, are not published or recorded. In view of this restriction, this first survey is limited to an analysis of the numbers and types of CT contracts. Similar restrictions have been faced by previous researchers. It is recognised that buyback and offset deals predominantly relate to very large projects ('big ticket' defence projects, joint ventures and associated capital equipment). Thus, the money value for these individual contracts is likely to be greater than for barter and counterpurchase transactions. Buyback and offset contracts are estimated to average USD $10 million. This is because of the very nature of the joint venture projects and products involved.

It is also recognised that many CT transactions take many years to complete. The investigation is therefore restricted to a survey of deals in the year negotiations commenced or agreements or letters of intent struck rather than the year in which full settlement and completion took place. Because of the large amounts involved in individual buyback and offset transactions, time is required for such arrangements to be completed and paid for. It is estimated the average length of time for such projects is around 8 years. Amounts reported are in US$.

Data

The major sources of data were, *Countertrade Offsets and Intelligence* (now a Division of Euromoney Publications based in London) and *Countertrade Review* (based in A.C.T., Australia). The latter is the newsletter of the Australian Countertrade Association. Both newsletters report the major CT transactions either negotiated or commencing negotiations throughout the world on a monthly basis. The newsletters are internationally recognised as important sources of CT intelligence and information. The data was extracted from all issues published from 1989 to 1993 inclusive. The sample represents the majority of world CT deals over this period. Most but, not all CT contracts during the period, have been captured. A total of 127 Chinese CT transactions were analysed. Global transactions over the same period numbered 1,984. The sample is similar in size and nature to that compiled by Palia and Shenkar (1991). The identification process of CT components was similar to the process adopted by Hennart (1990). In what follows we look at the data more formally to obtain preliminary insights.

Preliminary Results

Table 1 shows Chinaís share of global CT transactions. It indicates that Chinaís share declined from 9% in 1989 to 4% in 1990. As can be seen, Chinese transactions, on average, represent 6% of world CT transactions for the period 1989-1993. The reason for the decline will be dealt with in subsequent chapters.

Table 2 shows the numbers of component Chinese CT transactions and compares these to total Chinese CT transactions. Of the total in 1993, barter was 36%, counterpurchase 23%, buyback 9% and offsets 32%. In 1989 the proportions were barter 47%, counterpurchase 8%, buyback 12% and offset 34%. It appears that counterpurchase transactions have increased substantially at the expense of barter. On average, as a percentage of total Chinese transactions, barter was 40%, counterpurchase 25%, buyback 25% and offset 10%.

Table 3 shows the countries that countertraded with China over the period. The numbers of CT transactions with the CIS/Soviet Union, at twenty two and with the US, at twenty are particularly noticeable. Chinese CT transactions with these two countries may be approximately thirty three percent of total Chinese CT transactions.

Table 4 divides countries into their group as either LDC, DC or TME. It shows that China has dealt with many countries by CT and that the spread between groups is reasonably even. As most CPEs are now making the transition to market economies this group is referred to as TME.

Table 5 confirms a reasonably even spread of total CT transactions between the different country groups and China. Transactions with the DC group declined quite noticeably from 1989 to 1992. Transactions with other TMEs appear to have increased significantly over the same period but, have declined from 1992 to 1993. The decline in transactions with LDCs from 1991 appears to be quite significant.

Table 1: China's share of world CT transactions, 1989-1993.

Year	*China*	*World*	*Chinese Share*
(1)	*(2)*	*(3)*	*(4)*
1989	34	374	9
1990	12	321	4
1991	28	404	7
1992	31	524	6
1993	22	361	6
TOTAL	127	1984	6

Table 2: Chinese CT transactions by components, 1989-1993.

Year	*C1*		*C2*		*C3*		*C4*		*Total*
	(1)		*(2)*		*(3)*		*(4)*		*(5)*
1989	16	(47)	6	(18)	12	(35)	-	-	34
1990	1	(8)	3	(26)	7	(58)	1	(8)	12
1991	13	(46)	7	(25)	7	(25)	1	(4)	28
1992	14	(45)	10	(32)	3	(10)	4	(13)	31
1993	8	(36)	5	(23)	2	(9)	7	(32)	22
Total	52	(40)	31	(25)	31	(25)	13	(10)	127

Note: C1, C2, C3, and C4 represent the CT components of barter, counterpurchase, buyback and offset respectively.

Transactions with the DCs may be again starting to increase from 1992. All of these movements may be related and an attempt is made to explain them in Chapter 5.

Table 6 shows the numbers of Chinese CT component transactions with the three country groups. Apart from the larger number of total transactions with the CIS and the United State of America (USA) with twenty two and twenty respectively, other figures that particularly stand out are thirteen barter transactions with the former and twelve buyback transactions with the latter.

For convenience we commence looking at the various countries in country groups. Table 4 provides the groups in DC, TME and LDC. Table 7 shows Chinese CT component transactions with the three country groups. Figures that particularly stand out are 29 barter transactions with TMEs and 25 buyback transactions with DCs.

Table 3: Chinese CT transactions by countries, 1989-1993.

Country	*1989*	*1990*	*1991*	*1992*	*1993*	*Total*
Albania	1					1
Australia	1					1
Bangladesh	2					2
Burma	1		2			3
Columbia	1					1
Cuba				1	2	3
Czechoslovakia	1		2			3
Egypt				1		1
Ethiopia		1				1
France				2	1	3
Germany			1			1
Ghana	1					1
Hungary				1	1	2
India	2		2	1		5
Indonesia			1		1	2
Italy			1			1
Iran	3		2		1	6
Israel	1					1
Jamaica			1			1
Japan	1	4	2			7
Jordan		1				1
Malaysia	1				1	2
Mongolia				3		3
Netherlands		1		1		2
Nigeria					1	1
North Korea			1	1		2
Pakistan		1	1			2
Peru	2			1		3
Philippines			3			3
Poland	1					1
Singapore					1	1
Soviet Union	3	1	3	10	5	22
South Korea	1			1		2
Sudan			1	1		2
Switzerland				1		1
Taiwan			2			2
Thailand			1			1
Turkey	1					1
UK	1			1	1	3
US	8	3	1	3	5	20
Vietnam				1		1
Yugoslavia	1		1	1	2	5
Total	34	12	28	31	22	127

Table 4: Country Groups for Chinese CT.

DC	*TME*	*LDC*
Australia	Albania	Bangladesh
France	Cuba	Burma
Germany	Czechoslovakia	Columbia
Italy	Hungary	Egypt
Israel	Mongolia	Ethiopia
Japan	North Korea	Ghana
Netherlands	Poland	India
Singapore	CIS(Soviet Union)	Indonesia
South Korea	Vietnam	Iran
Switzerland	Yugoslavia	Jamaica
Taiwan		Jordan
UK		Malaysia
US		Nigeria
		Pakistan
		Peru
		Philippines
		Sudan
		Thailand
		Turkey

Table 5: Chinese CT transactions by country groups, 1989-1993.

Group	*1989*	*1990*	*1991*	*1992*	*1993*	*Total*
DC	13	8	7	9	8	45
TME	7	1	7	16	10	41
LDC	14	3	14	6	4	41
Total	34	12	28	31	22	127

Table 6: Chinese CT component transactions by country, 1989-1993.

Country	*C1* *(1)*	*C2* *(2)*	*C3* *(3)*	*C4* *(4)*	*Total* *(5)*
Albania	1				1
Australia	1				1
Bangladesh	2				2
Burma	2	1			3
CIS/Soviet	13	8	1		22
Columbia	1				1
Cuba	3				3
Czech.	3				3
Egypt	1				1
Ethiopia		1			1
Germany			1		1
Ghana	1				1
Hungary	1	1			2
France			1	2	3
India	1	1	3		5
Indonesia	1	1			2
Iran	3	3			6
Israel	1				1
Italy			1		1
Jamaica	1				1
Japan		2	5		7
Jordan		1			1
Malaysia		1	1		2
Mongolia	3				3
Netherlands			1	1	2
Nigeria		1			1
North Korea	2				2
Pakistan		2			2
Peru	2	1			3
Philippines	1	2			3
Poland	1				1
Singapore				1	1
South Korea	1		1		2
Sudan	1	1			2
Switzerland	1				1
Taiwan	1		1		2
Thailand		1			1
Turkey	1				1
UK			2	1	3
US			12	8	20
Vietnam		1			1
Yugoslavia	2	2	1		5
Total	52	31	31	13	127

Note: See note to Table 2 for CT components.

Table 7: Chinese CT components by country group, 1989-1993.

Group	*C1* *(1)*	*C2* *(2)*	*C3* *(3)*	*C4* *(4)*	*Total* *(5)*
DC	5	2	25	13	45
TME	29	12	1	-	42
LDC	18	17	5	-	40
Total	52	31	31	13	127

Tables 1 to 7 have provided the information for all of the components of Chinese CT. We now look at disaggregated data in terms of Chinese barter and counterpurchase transactions, buyback transactions and offset transactions.

Table 8 shows the number of Chinese barter and counterpurchase transactions. The significant figure is twenty six with the CIS/Soviet Union, where there was an increase from 1989 to 1992. The lack of appearance of countries from the DC group is noticeable in barter and counterpurchase transactions.

Table 9 shows the number of barter and counterpurchase transactions according to country group. The significant figure here is forty six with TMEs and only seven with DCs.

Table 10 shows the number of Chinese buyback transactions with different countries. Significant numbers are observed with western type countries and particularly the USA (thirteen out of thirty one transactions).

Table 11 shows the number of buyback transactions with each of the country groups. Noticeable figures include a total of twenty five with DCs over the period. Only two transactions were with TMEs. This table also shows that there has been a marked decline in DC buyback since 1989.

Table 8: Chinese barter and counterpurchase transactions by country, 1989-1993.

Country	*1989*	*1990*	*1991*	*1992*	*1993*	*Total*
Albania	1					1
Australia	1					1
Bangladesh	2					2
Burma	1		2			3
CIS,Soviet	4	1	4	10	7	26
Columbia	1					1
Cuba				1	2	3
Czechoslovakia	1		2			3
Egypt				1		1
Ethiopia		1				1
Ghana	1					1
Hungary				1	1	2
India	1		1			2
Indonesia			1		1	2
Israel	1					1
Iran	3		2		1	6
Jamaica			1			1
Japan		1	1			2
Jordan		1				1
Malaysia		1				1
Mongolia				4		4
North Korea			1	1		2
Pakistan			1	1		2
Peru	1					1
Philippines			1	1		2
Poland	1					1
South Korea	1					1
Sudan			1	1		2
Switzerland				1		1
Taiwan			1			1
Thailand			1	1		2
Turkey	1					1
Vietnam	1			1		2
Total	22	4	20	24	13	83

Table 9: Chinese barter and counterpurchase transactions by country group, 1989-1993.

Group	*1989*	*1990*	*1991*	*1992*	*1993*	*Total*
DC	3	1	2	1	-	7
TME	7	1	7	21	10	46
LDC	12	2	11	2	3	40
Total	22	4	20	24	13	83

Table 10: Chinese buyback transactions by country, 1989-1993.

Country	*1989*	*1990*	*1991*	*1992*	*1993*	*Total*
CIS				1		1
France				1		1
Germany			1			1
India	1		1			2
Italy			1			1
Japan	1	3	1			5
Malaysia	1					1
Netherlands		1				1
South Korea		1				1
Taiwan			1			1
United Kingdom	1				1	2
United States	8	3	2			13
Yugoslavia					1	1
Total	12	7	7	3	2	31

Table 11: Chinese buyback transactions by country group, 1989-1993.

Group	*1989*	*1990*	*1991*	*1992*	*1993*	*Total*
DC	10	6	4	4	1	25
TME	-	-	-	1	1	2
LDC	2	1	1	-	-	4
Total	12	7	5	5	2	31

Findings

For our purpose, we look at the frequency of countries within country groups against the frequency of CT transactions of a particular type or types undertaken with those countries. The idea is to investigate Chinaís propensity to countertrade in specific forms with particular country groups. We start with barter and counterpurchase transactions in Table 12a. The majority of barter transactions involved the simple exchange of raw materials and primary produce without a currency component. Counterpurchase transactions generally involved the exchange of complementary products. That is, either raw materials or simply transformed manufactures that could be used in the manufacturing process. In some cases, there was a smaller currency component where the total values of goods exchanged differed. Table 12a shows the frequency of barter and counterpurchase transactions with the numbers of countries within groups that used those types of transactions. Column (1) shows that seven DCs in our sample (that is, seven developed countries that had countertraded with China in some form over the period of study) did not accept either barter or counterpurchase transactions on any occasion. Only six of the DCs accepted barter or counterpurchase contracts at least once. Of these, five DCs accepted such contracts once and one accepted twice. With regard to the LDCs, nineteen countries accepted counterpurchase or barter at least once. Eleven TMEs accepted these types of CT at least once. One TME accepted barter or counterpurchase transactions on twenty one occasions (this TME is the CIS, as in Table 6).

To test the magnitude of each of the relationships between the types of CT undertaken by China with particular country groups we apply a two sample Chi-Square test. In the case of barter and counterpurchase the value of the test statistic is observed to be 31.4717 which is significant at the conventional 5% level. Thus, the results indicate that China has a preference for barter and counterpurchase transactions to be arranged with other TMEs and LDCs. These forms of CT transactions are shown to be often used by TMEs and particularly by the CIS. The data also indicates that DCs do not, in the main, accept barter or counterpurchase transactions.

Table 12b involves buyback and offset transactions. Buyback transactions predominantly involved joint ventures where the DC contribution for the cost of the joint venture manufacturing facility in China was paid for by the product of the joint venture. For example, soft drink product was the form of payment received from the Beijing plant. In many cases their was a smaller currency component in the total transaction. Offset arrangements mainly involved government to government exchange of large defence or aviation related equipment or component manufacturing facilities either for certain economic benefits for the DC exporter in China (for, example most favoured trading nation status or preferential trade or tariff treatment) or for a proportion of the resultant manufactured componentry of the plant. Table 12b indicates that ten DCs accepted either buyback or offset at least once. Five LDCs accepted at least once. Two TMEs accepted at least once. One DC accepted either buyback or offset twenty times (this DC is the USA as in Table 6). Table 12b illustrates some support for buyback and offset transactions being predominant with DCs. This relationship is, however, statistically weak at the conventional significance level.

Table 12a: Number of barter and counter purchase transactions, 1989 to 1993.

	Number of Transactions							
Country Group	*0*	*1*	*2*	*3*	*4*	*6*	*21*	*Total*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	
DCs	7	5	1	-	-	-	-	13
LDCs	-	12	5	1	-	1	-	19
TMEs	-	4	2	3	1	-	1	11
Total	7	21	8	4	1	1	1	43

Note: The table can be read as follows. The first entry in column (1) means that 7 DCs undertook zero barter and counterpurchase transactions with China over the period. They countertraded with China over the period but not in these forms. Similarly the second last entry in column (5) means that one TME had 4 barter and counterpurchase transactions with China over the period. The last column and the last row provide the total number of countries that dealt by CT with China over the period (a total of 43 countries).

Table 12b: Number of buyback and offset transactions, 1989 to 1993.

	Number of Transactions						
Country Group	*0*	*1*	*2*	*3*	*5*	*20*	*Total*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	
DCs	3	5	1	2	1	1	13
LDCs	14	3	1	1	-	-	19
TMEs	9	2	-	-	-	-	11
Total	26	10	2	3	1	1	43

Note: See note to Table 12a for convenience of reading.

Table 12c considers only offset arrangements. It can be seen that one DC accepted offset arrangements on eight occasions (this DC is the USA as in Table 6). Eight DCs did not accept offset. Nineteen LDCs and eleven TMEs did not accept any offset transactions. With the observed value of the test statistic at 13.0567, which is significant at the 5% level, we conclude that offset arrangements are arranged with DCs, particularly the USA. Note that LDCs and TMEs do not accept this method of CT at all.

Table 12c: Number of offset transactions, 1989 to 1993

	Number of Transactions				
Country Group	*0*	*1*	*2*	*8*	*Total*
	(1)	*(2)*	*(3)*	*(4)*	
DCs	8	3	1	1	13
LDCs	19	-	-	-	19
TMEs	11	-	-	-	11
Total	38	3	1	1	43

Note:See note to Table 12a for convenience of reading.

Table 12d involves only buyback transactions. The table indicates that one DC accepted buyback on twelve occasions (this DC is the USA as in Table 6). Nine DCs accepted buyback on at least one occasion. Only one LDC accepted buyback at least once and seventeen did not accept it at all. Only two TMEs accepted buyback at least once and nine did not accept it at all. The observed value of the test statistic is 18.5262 and is statistically significant. Thus, buyback transactions are used with DCs and especially with the USA.

Table 12e relates to counterpurchase transactions alone. It indicates that thirteen LDCs accepted counterpurchase at least once. Five TMEs accepted at least once. One TME accepted eight transactions (this TME is the CIS as in Table 6). Only one DC accepted counterpurchase with three transactions. As before, we run the test and the statistic is 16.4593, which is significant at the conventional level. Thus, counterpurchase arrangements are accepted predominantly by LDCs and other TMEs.

Table 12d: Number of buyback transactions, 1989 to 1993.

	Number of Transactions						
Country Group	*0*	*1*	*2*	*3*	*5*	*12*	*Total*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	
DCs	4	6	1	1	1	1	14
LDCs	17	1	-	-	-	-	18
TMEs	9	2	-	-	-	-	11
Total	30	9	1	1	1	1	43

Note:See note to Table 12a for convenience of reading.

Table 12e: Number of counterpurchase transactions, 1989 to 1993.

	Number of Transactions					
Country Group	*0*	*1*	*2*	*3*	*8*	*Total*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	
DCs	12	-	-	1	-	13
LDCs	6	10	2	1	-	19
TMEs	6	3	1	-	1	11
Total	24	13	3	2	1	43

Note:See note to Table 12a for convenience of reading.

Table 12f relates only to barter transactions. The table shows that only five DCs accepted barter at least once and eight did not accept it at all. Thirteen LDCs accepted at least once. Nine TMEs accepted at least once. One TME accepted barter on thirteen occasions (this TME is the CIS as in Table 6). Whilst Table 12f indicates that barter transactions are mainly undertaken with other TMEs, the relationship is, however, statistically weak. Nevertheless, the majority of transactions were undertaken with the CIS which is in the TME country group.

Table 12f: Number of barter transactions, 1989 to 1993.

	Number of Transactions					
Country Group	*0*	*1*	*2*	*3*	*13*	*Total*
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	
DCs	8	5	-	-	-	13
LDCs	6	9	3	1	-	19
TMEs	2	3	2	3	1	11
Total	16	17	5	4	1	43

Note: See note to Table 12a for convenience of reading.

Comment on Findings

Our findings partially support those of Hennart (1990). The main areas of common ground relate to the disproportionate use of CT. This is the case particularly with barter as it is imposed on those countries with large external debt and low reserves. Such countries include both CPEs (TMEs) and LDCs. Barter arrangements are predominantly undertaken with Russia and the CIS. There is partial support for buyback and offset arrangements being accepted predominantly by DCs when imposed or requested by countries with low levels of reserves and high external debt. These findings also support those of Palia and Shenkar (1991). That is, buyback and offset arrangements were strong components of Chinese CT, particularly with the USA. The west, led by the USA, is interested to a large degree in CT for share value maximisation (Simpson, 1995). From China's point of view, CT import finance is expected to result in medium to long term economic and industrial development and wealth of the country. In the short term foreign exchange reserves are preserved for essential imports again associated with economic development.

We conclude that TMEs, such as China, either request or impose CT arrangements for liquidity reasons. That is, to conserve foreign exchange reserves for more important purposes relating to medium to long term economic and industrial development. Constraints on foreign exchange reserves may have been exacerbated by the institutional factors such as, the lack of depth in domestic markets and instruments, the conduct of domestic macroeconomic policies as well as the present global trends towards trade liberalisation at regional levels rather than at a global level.

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