CHAPTER IV : SPECULATION AND NON-TRADE INTEREST IN TERMINAL MARKETS

1. INTRODUCTION

The growth of commodity futures trading over the past twenty years has been explosive. In 1960, 3,878,151 contracts were traded on U.S. Exchanges. By 1977, the number of contracts traded had reached 42,880,318, an increase of over 1,000 per cent*. Whilst part of the growth of trading activity can be accounted for by the growing realisation by producers and consumers that terminal markets provide an effective way of hedging their price risks, there are two other important factors influencing the growth of trading.

Firstly, the influence of speculators and investors in the market has grown enormously. Secondly, new futures markets have sprung up, offering contracts in a variety of physical commodities, and even in interest rates and government bonds.

The instability of the world economy and traditional spheres of investment over the past decade has caused speculative and investment capital to flow into the futures markets, seeking, in the process, to satisfy three major objectives. The primary objective was undoubtedly to discover more profitable forms of investment tham those traditionally available. A second attribute that terminal markets were able to offer certain speculators was the possibility of undertaking high risk, highly geared (or in US terminology, high leverage) speculation, by virtue of the possibility of trading on margin. This is explained more fully, below. The third attraction of futures markets was of relevance mainly to a totally different type of investor, managing a large non-speculative portfolio, who saw, in futures contracts, a new class of financial instruments, allowing him to reduce his risks by diversifying his portfolio beyond its traditional composition.

Note : * Commodities Yearbook, 1978. These figures include financial futures.

The growth of non-trade involvement in terminal markets has not been universally welcomed. Many critics have argued that the flood of capital into commodity markets is destabilising, and that it causes commodity prices increasingly to become divorced from actual supply and demand conditions. In the remainder of this chapter we shall look at the role of speculators and investors in commodity markets. Some of the effects of their activities on the markets will be considered in Chapter V.

The distinction betwen speculation and investment is not a clear cut one; however, it is useful to create a distinction for the purposes of exposition. At the risk of over-simplification, speculators can be described as those who risk their capital in the short-run in order to make a profit. Often they are prepared to accept a number of losses in the expectation of making one big gain. Investors, on the other hand, are concerned with maintaining and adding to the real purchasing power of their capital in the long run by investing in commodities.

2. SPECULATION ON TERMINAL MARKETS

Despite the view of the Chicago Mercantile Exchange that "to be viable, a futures market must have probably at least 50 per cent investor or speculative activity", the predominant feeling among those responsible for supervising terminal markets is that non-trade involvement in such markets is healthy only if kept within reasonable bounds. The problem is always to determine precisely what those bounds should be. The Chicago Mercantile Exchange spokesman's statement reflects the belief that a sizeable proportion of trading on a terminal market has to be speculative, if the market is to possess enough liquidity to enable it to perform its legitimate function of transferring risk away from producers, consumers and merchants. However, it would be queried by many observers whether 50 per cent is the minimum proportion of business that needs to be of speculative origin.

A major problem with any analysis of terminal market trading is making the distinction between speculation and legitimate trade hedging. There are many ways in which trade interests can speculate on terminal markets by allowing their holdings of futures contracts to diverge from the pattern that would most efficiently minimise the risk from price fluctuations. For example, a processor expecting commodity prices to fall over a weekend may well allow his "book" of futures contracts to be excessively" short" at the end of trading on Friday (in other words, he will have sold forward more contracts than he needed purely for hedging reasons), in the intention of getting back into balance on the next Monday morning.

Conversely, there are occasions when non-trade interests behave in totally proper, non-speculative ways. Very important instances of such behaviour can be given for terminal markets during periods of depressed commodity prices, when the contangos

embodied in futures quotations moved close to the short run costs of financing and storing the commodity in question. At such times, large non-trade financial institutions entered the commodity markets, in effect, to finance stocks, by buying large tonnages of the commodity stored in the commodity exchange warehouses and selling the same tonnage forward as a futures contract, earning the contango in the process. In this manner, banks, insurance companies and pension funds were able to earn a competitive short term, risk-free, return, without in any way speculating upon short run movements in commodity prices.

The difficulties of distinguishing speculative from non-speculative trading on terminal markets have not deterred supervisory authorities from trying to limit speculative activity, when they feel that it is threatening to disturb the balance of the market. In Britain, the Bank of England has no hard and fast rules; however, it is said to intervene, usually informally, but on rare occasions formally (restricting the number of new contracts that can be entered into), if non-trade interests account for much more than 30 per cent of the contracts outstanding in a futures market at any time. British authorities tend to adopt a more generous definition of trade interests" than do their US counterparts, but, even so, it is interesting to compare the British maximum of 30 per cent non-trade involvement in a futures contract with the Chicago exchange's minimum requirement of a 50 per cent investor or speculative involvement.

The authorities in the USA share the British concern about the extent of speculative activity on terminal markets. In November 1979, and again in March 1980, Paul Volcker, chairman of the US Federal Reserve Board, cautioned US banks against financing speculative trading, and, on the latter occasion, this proved very effective in reducing such trading.

Criticism of speculative activity has also come from within the futures industry itself, as well as from producers of raw materials in developing countries. David T. Johnston, the chairman of the US Futures Industry Association, believes that the industry (sic) must avoid an excessive build up of speculative positions which will subject the prices of raw materials to squeezes or manipulation. Johnston believes that price volatility has attracted 'unethical and dishonest persons into fringe areas of the business', which has led to adverse publicity, and the clamour for regulation of speculative activity.

From the commodity producer's point of view, speculation is seen as an evil which accentuates the price and revenue fluctuation experienced by exporters of raw materials. When opening a meeting of the ten nation Cocoa Producers' Alliance, President Houphouet-Boigny of the Ivory Coast said that speculation should be rooted out of trade between developed countries and the Third World, and that it was 'unfair' that cocoa prices were determined by 'stock exchange operations made in a dehumanised atmosphere.' During the second quarter of 1980 the Ivory Coast took the lead in trying to resist declining cocoa prices, by withholding a large part of its crop from the market until prices improved. However, the perishable nature of cocoa made this strategy impossible to sustain for more than a few months, and in June, the Ivory Coast had to acknowledge the failure of its policy, and incurred a loss estimated at over $90 mn in disposing of its cocoa stocks.

Clearly, speculative activity is under criticism from all sides : from the governments of producing and consuming nations, from those who believe that money is being chanelled into 'non-productive' activity, and even from officials of the futures markets themselves. However, the most important question to be answered is whether or not this criticism is justified. Is

speculative activity responsible for the violent price fluctuation of recent years, or is it simply a response to instability? To answer this question first requires an understanding of the role of speculators in futures trading.

2.1 How Speculators Operate

The operation of hedging deliberately eliminates the possibility of making a gain from price changes in order to safeguard against the risk of a loss. Speculators, however, deliberately risk their capital in the hope of making a profit. The capital which speculators bring to the markets creates the liquidity necessary for hedgers to be able to transfer their risks.

To some degree, the operations of hedgers selling 'short' will be offset by other hedgers buying 'long', and vice versa. However, it will not always be the case that 'short' hedges exactly offset 'long' hedges. Consequently, if successful hedging is to be possible, the market requires additional liquidity in the form of speculators who are prepared to buy from, or sell to, hedgers. Consequently, speculation is an integral part of a futures market. It is important to stress that hedging cannot be successful without the liquidity which speculation provides.

Speculators can, and do, operate in the spot market for commodities. Successful speculation here is dependent on a rising market which enables the speculator to sell when he feels the price has reached its high point. A speculator can 'squeeze' the market by buying large quantities of the commodity, taking delivery and so forcing up the price, and then selling in order to take his profit. However, spot market speculation has the considerable disadvantage for the speculator that he has to pay for the commodity in full. He far prefers it when he can speculate by committing initially

only a small proportion of the value of the commodity in question, since, then, he is much more highly geared from a financial point of view. Terminal markets typically enable a speculator to achieve this ideal, because futures contracts are bought and sold on a "margin", of only a small percentage of the commodity's price.

In practice, futures markets have two distinct advantages over spot market from the point of view of the speculator. Firstly, as futures contracts can be bought on a margin, giving the speculator a very high rate of gearing, large profits can be made from a small initial outlay. For example, a speculator who bought a 25,000 lb July 1979 Comex copper contract on Dec. 11th 1978 at 72 cents per lb., and sold it in March 1979 at 92 cents per lb., would have pocketed 5,000 dollars profit on an initial investment of $1,000, as the margin requirement on the $18,000 of copper was only 5.5 per cent. Margins also allow speculators to diversify their capital into a number of different markets, thus minimizing the risk to the total value of their assets arising from a loss in one market.

Secondly, successful speculation does not depend on a rising market; it simply requires the correct identification of future trends in the market - up or down. If a speculator believes the price is likely to fall, he can sell forward on the futures market, wait for the price to fall, and then buy on the spot market to meet his contractual commitment. The differences between the price at which the commodity is bought on the spot market and price at which it was initially sold on the futures market constitutes the speculator's profit. Alternatively, the speculator can sell forward three months, and then buy two months forward a month after the original sale, when the price has fallen. In this case, the speculator takes his profit without ever having to trade in the spot market.

Conversely, if a speculator expects a rising market in the future, he can buy three months forward on the futures market and then sell onto the spot market when the price has risen. He can also sell two months forward a month after his initial purchase, so that his contracts to buy and sell cancel each other out.

It is clear from the preceding analysis that speculative activity requires a degree of price instability in order to be viable. In this sense, speculation is a reaction to, rather than a cause of, price instability. Whether or not speculation accentuates price instability will be dealt with in Chapter V.

2.2. The LME Aluminium Contract

One example where speculation can be considered as having an effect on price stability is through the creation of a futures market for a commodity whose price was formerly relatively stable. The LME contract in aluminium is one such market.

Prior to the establishment of the LME aluminium contract in October 1978, it seemed that almost everyone involved in the industry was against it. The producers argued that the industry's high degree of vertical integration, coupled with a producer pricing system, gave the industry a stable price which was beneficial to producers and consumers. It was also pointed out by the producers that the inclusion of aluminium on the LME would introduce a speculative interest in the metal. This was thought to threaten the advantage of price stability that aluminium had over competing materials, especially copper. Furthermore, aluminium fabricators had little need for hedging facilities, as the prices of semi-fabricated aluminium products are not based directly on the price of aluminium ingots.

The majority of merchants dealing in aluminium were also against the new contract, as they were already enjoying a significant volume of business outside the LME. Those merchants who were in favour of the new contract were Ring-dealing members of the LME. For them, the contract would mean a significant volume of new business, and the opportunity to speculate.

The LME lobby's main argument in favour of the contract was that the start up of new capacity in the Middle East in the early 1980's might upset the supply/demand balance for aluminium. The new capacity would bring considerable quantities of uncommitted aluminium onto the free market.

Although the new contract was clearly not required by the aluminium industry, and despite the objections raised in many quarters, the new contract was launched. Because of the controversy that surrounded its inception, the LME contract has been blamed by its critics for encouraging a shift in aluminium product pricing away from a producer price basis towards a free market price basis, which would give an important role to the LME. However, whether or not this change occurs, it is unlikely to be as a result of the new LME contract. It will depend, rather, on changes in the structure of production of primary aluminium and of the manufacture of semi-fabricated products. Should there be large numbers of competing producers selling to large numbers of independent metal fabricators, it is unlikely that the producer price system could survive the ensuing competition.

Since its inception, the LME aluminium market has attracted a steadily growing volume of physical metal. Supplies have come mainly from the Socialist countries and small independent producers in the non-Socialist world. However, because the LME price has generally been above the producer price, the attraction of the LME to the large producers have been growing. Most of the metal traded on the LME is that which was previously sold on the free market, to merchants. Consequently

the main beneficiaries of the contract have been those merchants who are Ring-dealing members of the LME. Whilst the LME price has fluctuated considerably more than the merchant price would have done in the absence of the LME contract, as yet it has had little effect on the stability of the producer price.

3. INVESTMENT IN COMMODITY FUTURES

All types of investment have three characteristics which must be weighed up against each other when selecting an investment portfolio : liquidity, expected rate of return, and risk. Risk and expected rate of return, in particular, are closely related.

Over the past decade, historically low risk investments, such as gilt-edged government stock with a fixed interest rate, have become almost as risky as placing capital in an investment whose price fluctuates sharply. This is because inflation has meant that a nominal fixed interest return may mean a negative return in real terms. Commodities and commodity futures, however, although involving undoubted risk, also offer the possibility of attractive rates of return.

Futures contracts have the added advantages that they can be liquidated easily. An active futures market will provide a buyer for the investor who wishes to sell his holdings. However, there is, of course, the risk of a loss due to price changes if investors are forced to liquidate their contracts at short notice.

There are four broad reasons why institutional investors choose to invest in commodities and commodity futures. Firstly, an investor's portfolio should always be diversified in order to minimize the risk of loss; an investor should not 'put all his eggs in one basket'. Secondly, commodity futures offer the possibility of high rates of return. Thirdly, other possible investments (bonds, equities and property) have become comparatively unattractive alternatives in recent years, while commodity prices are believed to provide good long run prospects for at least equalling the rate of inflation. Finally, as we have already mentioned in our discussion of speculation, an important advantage of futures trading is that money can be

made whether the market is rising or falling. Investment in stocks or physical commodities can only be successful in times of rising prices. But a futures trader will be successful as long as he correctly identifies a trend - it does not matter whether the trend is up or down.

Broadly speaking, financial and non-physical stores of wealth have, within the past decade, been reassessed as investments, and are now considered to be inherently risky, on account of inflation, interest rate movements and exchange rate fluctuations. Consequently, commodities, or contracts to buy or sell commodities in the future, have become more highly regarded as a means of maintaining the real value of assets. It is felt that, in a world of inflation and monetary instability, raw materials must retain a basic value reflecting the increased cost of production.

3.1 Commodity Futures as a Protection Against Inflation

In order to protect himself successfully against inflation using commodity futures, the investor requires a knowledge of how the markets work, and how to take advantage of the trends that develop. Not every investor has this knowledge, of course, and specialist investment units and commodity funds exist for the purpose of managing the investment strategy.

Commodity investment funds are often set up in suitable offshore tax havens. This enables the fund to issue shares on a regular basis and avoid some of the control associated with direct investment in commodities. Purchases and redemptions of shares are made at the end of certain periods (normally one month). At the end of the period, the net asset value of the company is calculated in per share terms, and purchases and redemptions of shares are based on this. Thus, an

investor with only a small amount of capital, and no knowledge of the futures markets, can invest in such a commodity fund in the hope that the spread of investments made by the fund will safeguard the value of his capital.

Sterling-denominated commodity investment funds have been set up over the past five or six years. Their emphasis is on longer term investment, with managers holding a strategic mix of commodities to reflect prevailing conditions. The Vice-President of Drexel Burnham Lambert, a firm of commodity brokers, has estimated that the amount of European money in formally established commodity futures funds of various kinds has grown from under $10 million seven years ago to more than $200 million today, and he is confident that the growth of the past seven years will continue unabated.

Drexel Burnham Lambert's own commodity futures trading fund, Worldwide Fund Limited, was started in April 1978, with $1 million provided by two leading U.K. investment trusts. Since then, the fund has grown to $15 million, and now boasts some of the leading European institutional investors as shareholders, including private and commercial banks. More significantly, the shareholders include pension funds and insurance companies.

Old Court Commodity Trust is now the largest of the UK commodity funds. Formed in January 1976, its value had appreciated by 108 per cent by September 1979. Old Court has achieved a rate of return well above the rate of inflation in the UK. The fund is unique in that it invests in both commodities and in commodity related shares, with shareholdings in most of the major world stock markets.

The commodity related shares are held for two reasons. Firstly, it means the fund can take a wider participation in commodities than by investment directly; secondly, the shares provide a less risky form of investment for part of the fund's capital.

Approximately 10 per cent of Old Court's fund is retained in cash. However, the managers have been prepared to raise liquidity to a higher percentage under potentially adverse conditions. The fund makes an annual distribution to shareholders in March of each year.

Whilst investment in commodity futures has been a recent trend in Europe, the futures industry in the USA has been a sphere of significant investment since the beginning of the 1970's. The growth of futures trading in the USA has been so tremendous that many have argued that it is taking risk capital away from the stock and bond markets, depriving industry of cash needed for investment. This criticism has been rebutted by a former chairmain of the US Commodity Futures Trading Commission, who estimates the money involved in futures markets at $6 billion*, compared with the much larger sums tied up in the stock and bond markets.

3.2 Bank Involvement in Commodity Futures

The financing of commodity futures transactions has been aided by the establishment of futures financing departments by major banks; although, in response to criticism of speculative loans by the chairman of the Federal Reserve Board, US banks have argued that loans are granted for hedging activity rather than speculation. Typical of the pattern among US banks is the recent decision by the First National Bank of Chicago to establish a futures financing department. This will, the bank says, finance only relatively risk-free transactions, involving hedging or spreading (the simultaneous sale and purchase of futures in different delivery months of the same commodity).

The FNBC has thus joined the ranks of the leading US banks, such as the Continental Bank, Citibank, Bank of America and Harris Bank, for whom commodity futures have become an integral

Note : * The reader is reminded that the use of margins in futures trading means that the paper value of the outstanding futures contracts in existence in the USA at an time will be very much greater than $6 billion; a total of over $50 billion is quite probable.

part of their short term and seasonal lending operations. However, few banks will publicity admit to loaning money knowingly to professional speculators to enable them to carry on uncovered long or short positions.

Banks' involvement in futures market is not necessarily confined to the provision of finance for other people to undertake hedging transactions. We have already mentioned, in earlier sections, the valuable service provided by banks and other financial institutions in financing stocks accumulated in commodity exchange warehouses during times of economic recession. Under this so-called "cash and carry" business, banks buy commodities on a spot - or "cash" basis - on a terminal market and simultaneously sell the same tonnage in the futures market, having "carried" the stocks for the intervening period. The banks eliminate all risks related to the commodity price by buying and selling at the same time, but they manage to lock in the spread, or contango, between the spot and future quotations.

At the times that it is worth the while of commercial banks to intervene in terminal markets to earn the contango, the contango must at least cover warehousing costs and short term interest costs associated with a physical purchase of the commodity. But competition between financial institutions will set an upper limit to the size of the contango - to the benefit of commodity producers. In the meantime, the banks and other similar institutions greatly ease the burden of financing surplus commodity stocks.

The scale of the financial support provided by the banks and their associates can be very considerable indeed. It has been estimated that, for the copper market alone, up $1 billion of LME and Comex stocks were financed in this manner between early 1975 and early 1978.

4. CURRENCY INSTABILITY AND TERMINAL MARKET TRADING

The fluctuating value of world currencies during the 1970's has made holding wealth in the form of money, or fixed interest bonds, particularly risky. The sudden devaluation of a currency, in which an investor is holding his assets, will cause an immediate reduction in the value of those assets. However, commodity markets can provide a method of protecting the investor against this risk.

Take an example where assets are held in sterling, and the value of sterling is expected to fall in relation to other currencies. Money assets denominated in sterling will decline in value when sterling's value falls. However, it can be expected that the real value of sterling-quoted commodities on the world market will remain constant. Consequently, the sterling price of such commodities should rise to compensate for the fall in the value of sterling.

To protect the value of his sterling assets, the investor can buy a commodity quoted in sterling, wait for the price of the commodity to rise, and then sell. In this way, the real value of the investor's wealth will have been maintained.

The validity of the example ought not to be weakened if the currency under pressure is not the one in which the commodity is quoted. As long as the real value of the commodity on the world market is unaffected by a devaluation of the currency under pressure, futures contracts, far enough forward to include the period during which a devaluation is anticipated, provide a cheap and efficient way to reduce possible losses associated with the devaluation.

If commodity markets are commonly used as an important means of minimising the losses caused by exchange rate fluctuations,

then the movement away from a fixed exchange rate regime to the present one, characterised by floating exchange rates, is likely to have increased the amount of trading on terminal markets that is unrelated to the actual supply/demand relationships of the commodity in question. But, it is first necessary to establish that commodity markets are used for this purpose.

Commodity terminal markets provide two significant attractions to people seeking a devaluation hedge : one is the likelihood that the real value of the commodity will be unaffected by the devaluation; the other is that the facilities provided for futures trading on margin enable the hedge to be undertaken for a relatively low outlay. However, it has been argued that both of these attractions also exist for a more direct means of hedging against a devaluation, namely by buying or selling a currency on the forward foreign exchange market. It is argued that it is not intelligent for someone concerned purely with currency uncertainty to aim to combine a devaluation hedge with a new form of uncertainty - commodity price uncertainty.

Against this, there are two reasons for believing that terminal markets have been used increasingly to reduce exchange rate uncertainties. The first is that there are many firms for whom commodity market trading is much more familiar than trading on the forward foreign exchange market. Indeed, the structure of exchange control regulations in many countries would make it difficult for companies to get permission at short notice for foreign exchange forward trading, but places no obstacles in the way of long-standing forward trading arrangements in commodity markets. Thus, terminal markets are the most natural forum for many companies to use, even when their objectives are foreign exchange rather than commodity-related.

The other reason for believing that commodity markets have become more popular as means for hedging foreign exchange risks

is paradoxically that forward foreign exchange markets are less attractive for this purpose, now that exchange rates are floating. When exchange rates were fixed, gambles on exchange rate changes were one-way bets; no-one expected sterling's value to appreciate in 1967; devaluation had, by then, become inevitable. With floating exchange rates, however, it is not at all clear which currencies should be chosen as the instrument for exchange rate hedging transactions. Furthermore, the real value of almost all currencies is being eroded by inflation. Consequently, in the present uncertain world, the prospect of commodities retaining their real value in the medium and long term is often sufficient to counterbalance the disadvantages of short run commodity price volatility.

The arguments just presented give strong a priori reasons for believing that foreign exchange uncertainties have been a significant influence upon terminal market trading in recent years, and that this influence has grown during the 1970's. In order to provide a partial test of this hypothesis, we have undertaken a detailed study of one particular terminal market, that for copper on the London Metal Exchange. First, we shall examine a clearcut, unambiguous example of the impact of exchange rate speculation upon commodity prices, the case of the devaluation of sterling in 1967. Then we shall consider the impact during a period of floating exchange rates, such as has existed during the 1970's.

4.1 The Devaluation of Sterling, November 1977

After the General Election in the UK, early in 1966, June to September witnessed a serious sterling crisis, followed by the introduction of deflationary economic measures. On the LME, trading and prices were greatly influenced by the collapse of the non-US producer price system during the year. Nevertheless, the flurry in LME trading volume in the third quarter described

in Table 4.1 (followed possibly by an unwinding of speculative positions in November, when three months forward contracts matured) appears to have been related to uncertainty about sterling's value.

It should be remembered that up until the late 1960's, fixed exchange rates were the rule, not the exception, for the world's currencies, and the framework established at Bretton Woods in 1944 still held away. Given the weakness of Britain's competitiveness, expressed in chronic trade deficits in the balance of payments, the British Government first of all attempted to deflate the economy to rectify the trade deficit. Deflation proved insufficient, however; and it became increasingly apparent that the decision to devalue sterling - one the Government was reluctant to make, given sterling's role as a reserve asset for international trade - became inevitable. Furthermore, since devaluation was a 'once for all' affair, before the present era of floating exchange rates, speculators against sterling had nothing to lose but brokerage fees when taking their positions.

1967 saw a growing pitch of speculation against sterling, until the eventual devaluation on 20 November. LME turnover moved closely in line with the intensity of the speculation, reaching a peak in the month before devaluation was announced. As in 1966, there were also clear signs that positions were unwound three months later, and turnover fell in February 1968.

It is difficult to assess the general effect on copper prices of speculation against sterling, because other important factors were influential during this period, notably labour disputes in the Chilean and US copper industries. The US copper strike lasted from July 1967 to March 1968, and some of the severest effects in terms of shortages of supply were felt towards the end of 1967. However, these longer term

influences should not have had an important impact upon daily movements in price at the time of devaluation itself. All other things being equal, a 14.3 per cent decline in the value of sterling should raise the sterling price of copper by 16.7 per cent. Since the magnitude of the devaluation was announced and was to be implemented at one blow, as it were, one can assume, in looking at the days immediately preceding and following 20 November, that all other factors were the same.

During the week before devaluation, from 13-17 November, the mean LME cash wirebar price was £497.85 per long ton, and the mean price on Friday 17 November was £502.50. The devaluation was announced on Monday 20th November, and the mean LME price rose to £556.00, an increase of 11.7 per cent over the week before, and of 10.6 per cent over the last official quotation on Friday. On Tuesday 21 November, the price rose to £562.50, the percentage increases over the previous week and the previous Friday being 13.0 per cent and 11.9 per cent respectively. Only at the beginning of the next week did prices rise to levels justified by the devaluation of sterling.

Why did prices on the LME fail to respond fully to devaluation? On Monday 20th November, the cash price per long ton was some £30 below what it would have been if the price had moved up by the full effect of the devaluation. The answer lies in the effect of speculation. On 18 November, a Financial Times correspondent commented on the situation regarding commodity speculation against sterling the day before:

> ' There was great activity in nearly all commodity markets. Prices showed sharp gains in morning dealings, driven upwards by heavy hedge buying.'
>
> ' On the London Metal Exchange, one broker described trading conditions as "tantamount to gambling".'

The price movements in copper during the week before devaluation were not marked because the uncertainty surrounding the US and Chilean labour disputes meant that, in the short term, copper was not as good a hedge as other metals. Nevertheless, hedge buying of copper against a fall in the value of sterling over the whole period was significant. Sales of copper, closing the hedge and taking profits in the days immediately after devaluation, had the effect of dampening the upward adjustment of the copper price.

4.2 LME Turnover and Currency Instability

The previous section has already given examples of how turnover on the LME reacted to turbulence in the foreign exchange market in the 1960's. In the next few paragraphs, we shall examine the extent of the interaction between 1970 and 1977.

In 1970, the main influence upon the foreign exchange markets, which found an immediate response in LME turnover figures, was the heavy selling of sterling in September and October. This was precipitated by the publicity given to floating exchange rate regimes at the September IMF meeting. Monthly LME turnover in October, listed in Table 4.1, rose to a peak of 4.38 per cent of annual non-Socialist world refined copper production.

The pressures for floating exchange rates continued throughout the first half of 1971, alongside heavy inflows of US dollars into Europe and Japan. Eventually , the authorities yielded and in August, sterling and a number of other European currencies, as well as the Japanese Yen, were allowed to float. The net impact upon sterling's international value was limited. In December, the Smithsonian agreement realigned all major currencies, and devalued the US dollar by roughly 10 per cent.

Table 4.1: LME MONTHLY COPPER TURNOVER AND ANNUAL NON-SOCIALIST WORLD REFINED COPPER PRODUCTION.

(in tonnes)

	Date	Turnover	Annual Production	Turnover as % of Production
1966	J	92,600		1.8
	F	77,550		1.5
	M	86,075		1.7
	A	108,400		2.1
	M	87,025		1.7
	J	76,575		1.5
	J	110,200	5173,800	2.1
	A	134,700		2.6
	S	143,950		2.8
	O	118,925		2.3
	N	143,025		2.8
	D (TOTAL)	103,950 (1282,975)		2.0
1967	J	103,750		2.2
	F	129,900		2.7
	M	152,925		3.2
	A	132,950		2.8
	M	133,750		2.8
	J	134,950		2.8
	J	110,525	4777,300	2.3
	A	143,775		3.0
	S	150,775		3.2
	O	215,450		4.5
	N	204,175		4.3
	D (TOTAL)	192,550 (1805,475)		4.0
1968	J	257,825		4.8
	F	201,075		3.7
	M	194,000		3.6
	A	198,350		3.7
	M	203,950		3.8
	J	149,500		2.8
	J	155,050	5397,600	2.9
	A	138,175		2.6
	S	121,925		2.3
	O	152,900		2.8
	N	161,250		3.0
	D (TOTAL)	165,450 (2099,450)		3.1

Table 4.1: LME MONTHLY COPPER TURNOVER AND ANNUAL NON-SOCIALIST WORLD REFINED COPPER PRODUCTION.

(in tonnes)

	Date	Turnover	Annual Production	Turnover as % of Production
1969	J	208,975		3.6
	F	154,600		2.6
	M	176,800		3.0
	A	206,425		3.5
	M	163,725		2.8
	J	171,875		2.9
	J	182,125	5879,700	3.1
	A	188,600		3.2
	S	235,850		4.0
	O	214,650		3.7
	N	190,275		3.2
	D (TOTAL)	204,900 (2298,800)		3.5
1970	J	218,250		3.6
	F	188,250		3.1
	M	209,075		3.4
	A	239,125		3.9
	M	232,325		3.8
	J	222,225		3.6
	J	237,150	6121,500	3.9
	A	189,175		3.1
	S	210,225		3.4
	O	267,975		4.4
	N	240,275		3.9
	D (TOTAL)	216,900 (2670,950)		3.5
1971	J	233,950		4.1
	F	197,325		3.4
	M	316,825		5.5
	A	244,425		4.2
	M	235,725		4.1
	J	318,825		5.5
	J	295,050	5773,600	5.1
	A	149,625		2.6
	S	247,800		4.3
	O	217,775		3.8
	N	215,150		3.7
	D (TOTAL)	215,525 (2888,000)		3.7

Table 4.1 :LME MONTHLY COPPER TURNOVER AND ANNUAL NON-SOCIALIST WORLD REFINED COPPER PRODUCTION.

(in tonnes)

	Date	Turnover	Annual Production	Turnover as % of Production
1972	J	208,750		3.3
	F	185,475		2.9
	M	224,750		3.5
	A	180,150		2.8
	M	212,400		3.3
	J	262,150		4.1
	J	184,725	6384,500	2.9
	A	210,650		3.2
	S	218,400		3.4
	O	207,700		3.3
	N	202,900		3.2
	D (TOTAL)	220,700 (2509,750)		3.5
1973	J	334,775		5.8
	F	400,850		6.O
	M	480,125		7.2
	A	323,350		4.8
	M	436,900		6.5
	J	386,825		5.8
	J	453,400	6684,800	6.8
	A	405,325		6.1
	S	338,975		5.1
	O	462,550		6.9
	N	357,325		5.3
	D (TOTAL)	245,725 (4676,125)		3.7
1974	J	308,200		4.4
	F	282,475		4.1
	M	259,725		3.7
	A	246,550		3.5
	M	303,850		4.4
	J	276,875		4.O
	J	283,325	6945,700	4.1
	A	264,625		3.8
	S	219,050		3.2
	O	257,025		3.7
	N	265,525		3.8
	D (TOTAL)	203,800 (3171,025)		2.9

Table 4.1: LME MONTHLY COPPER TURNOVER AND ANNUAL NON-SOCIALIST WORLD REFINED COPPER PRODUCTION.

(in tonnes)

	Date	Turnover	Annual Production	Turnover as % of Production
1975	J	273,675		4.4
	F	251,250		4.0
	M	227,250		3.6
	A	259,975		4.1
	M	261,075		4.2
	J	299,075		4.8
	J	326,875	6290,400	5.2
	A	285,675		4.5
	S	324,475		5.2
	O	348,625		5.5
	N	277,775		4.4
	D (TOTAL)	364,300	(3500,025)	5.8
1976	J	366,550		5.5
	F	369,825		5.6
	M	468,275		7.0
	A	483,650		7.3
	M	431,850		6.5
	J	471,100		7.1
	J	475,650	6663,500	7.1
	A	373,300		5.6
	S	472,450		7.1
	O	421,050		6.3
	N	412,925		6.2
	D (TOTAL)	320,775	(5067,400)	4.8
1977	J	376,925		5.5
	F	361,325		5.2
	M	391,700		5.7
	A	351,350		5.1
	M	366,975		5.3
	J	335,775		4.9
	J	339,750	6833,800	4.9
	A	340,100		4.9
	S	389,150		5.7
	O	362,625		5.3
	N	344,125		5.0
	D (TOTAL)	365,675	(4325,475)	5.3

Sources: LME, WBMS

The behaviour of LME turnover during 1971 demonstrates that it was speculation involving European currencies, and sterling in particular, that represented the main foreign exchange influence upon the LME. LME turnover in the months before August was much higher, in relation to world production, than at the time of sterling's 1967 devaluation. After the free floating of sterling in August, turnover fell back to levels that, while still historically high, were not very far above trend values. The Smithsonian agreement itself had only a limited impact on LME turnover.

During 1972, the foreign exchange markets were quieter. The EEC countries formed a currency bloc to limit exchange rate changes between them, but a dock strike in June, combined with general doubts about the health of the British economy, caused sudden pressure to build up against sterling. On 23 June, sterling was taken out of the EEC currency bloc and allowed to float.

LME turnover in 1972 closely parallelled sterling's fortunes. Turnover rose slightly in May, and more sharply in June, before falling back, with signs of traders unwinding in September three month positions taken up in June.

1973 was a year of frenzied activity on world foreign exchange markets. In January, a flight occurred from many European currencies, particularly the Italian lira, into the Swiss franc. As a result, the Swiss franc was allowed to float upwards at the end of the month. Then, in February there was pressure against the US dollar, sparked off by the announcement of the first US trade deficit in 30 years. Speculation against the dollar eventually led to a 10 per cent devaluation of the dollar and the floating of some other major currencies.

The dollar devaluation did not end currency speculation. In March, foreign exchange markets were closed, the Deutschemark

revalued, and most European currencies were allowed to float against the dollar. But the pressure for a further revaluation of the Deutschemark persisted, until it was revalued again in June.

Towards the second half of the year, sterling's position also came under attack. Heavy selling pressure developed in July, and sterling weakened until the end of the year. The Middle East war and the October announcement of the OPEC oil price rise maintained the tension until the year ended.

LME turnover was high throughout 1973, but, looking at monthly variations within the year, one notes that turnover was particularly high during the European currency crisis of the first quarter. Turnover was high again when the pressure against sterling was at its peak, but then eased off slightly, until the Middle East fighting and resultant oil crisis developed in October.

The foreign exchange markets were calmer in 1974. More interest focussed upon the ending of the commodity price boom (affecting copper, as well as other commodities) and the slide into economic recession.

Sterling came under growing pressure in 1975 and 1976. The Saudi Arabian decision at the end of 1974 to take payment for oil in dollars, rather than sterling, was a major reason, but pessimistic forecasts about the UK economy, together with growing UK balance of trade deficits and declining official UK foreign reserves, all added to the gloom. From a peak of $2.4268 in February 1975, the pound sterling fell in fits and starts to an exchange rate of only $1.6060 in October 1976, before showing gradual signs of recovery.

LME turnover rose, also in fits and starts, during this period, reaching a peak in the second quarter of 1976 before stabilising

near 500,000 tonnes per month of trading until sterling stopped falling in October. From October 1976, until late 1977 the speculative pressures shifted away somewhat from sterling towards other currencies such as the US dollar, the Yen, the Deutschemark and the Swiss franc. At the same time, LME turnover fell back somewhat.

This brief survey of trading activity on the LME has inevitably had to compress the discussion of external factors and their influence upon the LME. Nevertheless, we can draw some conclusions. Firstly, the circumstantial evidence suggests strongly that foreign exchange speculation has a very significant effect upon turnover on the LME. When exchange rates are under pressure, turnover increases. Secondly, the evidence of the copper contract on the LME is that, among the major currencies, it is speculation against sterling that has had the most substantial impact upon turnover. Variations in LME turnover appear to be related also, albeit to a lesser degree, to speculation affecting European currencies other than sterling. The connection between variations in LME turnover and speculation against the US dollar is relatively weak.

The stength of the link with sterling speculation serves to reinforce our earlier argument that many companies and individuals are unwilling or unable to use the most obvious, and most direct, means of hedging against currency fluctuations - namely a straightforward purchase or sale of a forward contract for foreign exchange. For holders of sterling assets, with a reluctance about dealing directly in foreign exchange futures the use of the LME is understandable. By contrast, one should note that non-UK residents dealing on the LME typically combine a commodity hedge with a foreign exchange hedge. Therefore, they are familiar with the operations of foreign exchange futures markets, and are less likely to turn to the LME in times of foreign exchange uncertainty than are their UK counterparts.