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THE role of speculation in the economic system is still a matter of controversy. In popular parlance the word has acquired an unfavorable connotation; most economists would probably say speculation is at best a necessary evil, though some would regard it as an unnecessary source of instability. One of the main issues in evaluating speculation is no doubt the degree of skill with which speculators can forecast prices: the more accurately prices are forecast, the less they will fluctuate, and the easier therefore the adjustments which interested parties have to make. Thus formulated the question leaves open to what extent the prices that actually emerge are in some sense optimal, for steadiness is only a minor characteristic of optimality. The very difficulty of defining optimality in a dynamic context, however, is a sufficient reason for separately considering speculators' success in predicting prices as they are. For this purpose we shall consider data concerning three important American commodity markets.[1]

In commodity futures markets a measure of the forecasting ability of speculators is not hard to find, for it is immediately reflected in their profits and losses. Except for hedgers, whose futures commitments are offset by commitments in the cash market, the buying and selling of futures contracts has no purpose other than to profit from changes in futures prices. The problem, then, consists in estimating and analyzing speculators' profits.

The best source of information on this subject would be the actual trading records of speculators, but these are rarely available. An important study based on data of this type was presented by Blair Stewart,[2] who made a detailed analysis of the accounts of about 9,000 customers of a nationwide brokers' firm during the period 1925–34. These accounts reflected almost exclusively speculative transactions in grain futures, mainly by non-professional traders. The most striking results were that nearly 75 per cent of the speculators lost money and that in the entire sample total losses were about six times as large as total gains. Since in the futures market as a whole gains and losses cancel out (apart from commissions, which in futures trading are small), the question arises by whom corresponding profits were made. Although the coverage of Stewart's material was not wide enough to give much information on this point, he seems to have thought it difficult to account for these heavy losses and to have suspected some unknown bias in his sample.

There were, in fact, two possible sources of bias. In the first place, prices in 1934 were much lower than in 1925, while the customers tended to prefer the long side. This effect, however, does not explain a great deal, since the trading experience of the shorts in the sample was not much less disastrous than that of the longs. A second source of bias may have been that the firm with which the accounts were held went bankrupt, which casts some doubt on the reliability of the advice it presumably gave to its customers.

If no actual trading accounts are available, estimates of gains and losses must be made from price movements and assumptions about commitments. This was done for speculators by Working[3] and for hedgers by Yamey[4] and others. The technique of the present paper is basically similar to theirs, but we were able to replace some assumptions about commitments by observed data and to consider a much longer period.

The method of estimating profits is based on monthly figures of open commitments and futures prices. The commitments are divided

[1] These results are part of an investigation of commodity futures undertaken at the Cowles Commission for Research in Economics with the valuable assistance of Lester G. Telser and supported by the Rockefeller Foundation. Further acknowledgments and details will be given in a forthcoming Cowles Foundation monograph.

[2] Blair Stewart, "An Analysis of Speculative Trading in Grain Futures," U.S. Department of Agriculture Technical Bulletin No. 1001, October 1949.

[3] H. Working, "Financial Studies of Speculative Holding of Wheat," *Wheat Studies*, VII (July 1931).

[4] B. S. Yamey, "Investigation of Hedging on an Organized Produce Exchange," *The Manchester School*, XIX (1951).

into three groups: (large) hedging, (large) speculative, and non-reporting. This division corresponds to the reporting requirements under the Commodity Exchange Act. Traders whose commitments in any one futures contract exceed the reporting limit (200,000 bushels in the case of wheat and corn and 5,000 bales for cotton) have to communicate their entire position to the Commodity Exchange Authority, which classifies futures commitments into hedging or speculative.[5] The remaining commitments are those of small traders, and it is commonly assumed that they are predominantly speculative in nature. It also seems clear that the reporting traders (both hedgers and speculators) are almost exclusively professionals, and that the figures for non-reporting traders are representative of the small non-professional speculators.

To estimate profits and losses it was assumed that the commitments of a group of traders that existed at the end of a month were opened at the average price during that month and closed out at the average price during the following month. The profit or loss of that group was then found by multiplying the end-of-month position by the change in the average price. Thus if large speculators were long 10 million bushels of May wheat on March 31, and the average price of May wheat was $1.60 per bushel during March and $1.55 during April, then their loss on that position was put at $500,000. Commission charges have been ignored throughout. It need hardly be said that this estimation procedure is no more than approximate and could be improved in various ways, but it should be accurate enough for the purpose of this paper.

In the case of wheat and corn the calculation just described could be performed for each futures contract (i.e., delivery month) separately, thanks to a recent analysis of the Commodity Exchange Authority [6] which cross-classifies open contracts by future and group of traders.[7] Total profit or loss for each group was then found as the sum of the profits or losses in each futures contract, calculated by multiplying the position in a future by the change in the average price of that future. This procedure will be referred to as Method A.

For cotton Method A could not be applied because a cross-classification is not available. It therefore had to be assumed that the percentage distribution of open commitments between futures was the same for all groups of traders, and hence the same as the distribution of total open commitments between futures, which is known from Department of Agriculture data.[8] The price change used was a weighted average of the changes in the average price of each future, the weights being given again by the percentage distribution of total open contracts between futures. This procedure, to be called Method B, was also applied to corn and wheat as a check. As may be seen from Table 5 the results from Methods A and B are not grossly different, although there are systematic discrepancies which will be discussed below.

The price data used were monthly averages of daily closing prices in Chicago (for grains) and New York (for cotton), obtained by courtesy of the Commodity Exchange Authority. Results are given by crop years, which start on July 1 for wheat, August 1 for cotton, and October 1 for corn. Open contract data for grains in the crop years starting in 1937–39 refer to the Chicago Board of Trade only, for 1946–51 to all United States markets combined. The first six months of the crop year 1946–47 had to be omitted in wheat because futures trading was still restricted by the aftermath of wartime measures. Open contract data for cotton are based on New York and New Orleans together in crop years beginning in 1937–44; for the remaining years they also include the insignificant cotton futures market in Chicago.

Despite the considerable variability of the entries in Table 1 certain broad conclusions may be drawn. In all three commodities the large hedgers lost and the large speculators

[5] A special category of speculative commitments is "spreading" or "straddling" positions, in which a long position in one or more futures contracts is offset by a short position in one or more other contracts.

[6] U.S. Department of Agriculture, "Grain Futures Statistics 1921–51," Statistical Bulletin No. 131 (July 1953).

[7] Some minor problems connected with the use of these figures will be discussed in the monograph mentioned in footnote 1.

[8] U.S. Department of Agriculture, *Cotton Futures Statistics* (3 issues covering 1937–45), and *Commodity Futures Statistics* (annual).

TABLE 1. — NET PROFITS (+) OR LOSSES (−) OF THREE CATEGORIES OF TRADERS IN COMMODITY FUTURES [a]

($ million)

Crop year [d]	Corn [b]			Wheat [b]			Cotton [c]		
	Large hedgers	Large spec's	Small traders	Large hedgers	Large spec's	Small traders	Large hedgers	Large spec's	Small traders
1937–38	+ .46	+ .22	− .68	+21.93	+ .36	−22.30	− 3.43 [e]	+ .44 [e]	+ 2.99 [e]
1938–39	+1.68	− .81	− .88	+ 5.91	− .45	− 5.46	− 3.80	+ .58	+ 3.22
1939–40	−1.67	+ .56	+1.11	− 2.59	+ 1.70	+ .90	− 8.04	+ 1.59	+ 6.45
Sub-total	+ .47	− .02	− .45	+25.26	+ 1.61	−26.87	− 15.27	+ 2.61	+ 12.65
1940–41	...	....	...	....	....	....	− 20.98	+ 2.04	+ 18.95
1941–42	...	....	...	....	....	....	− 9.39	+ 1.80	+ 7.59
1942–43	...	....	...	....	....	....	− 7.14	+ .82	+ 6.33
1943–44	...	....	...	....	....	....	− 1.84	+ 1.12	+ .72
1944–45	...	....	...	....	....	....	− 3.59	+ 1.41	+ 2.19
1945–46	...	....	...	....	....	....	− 79.77	+15.06	+ 64.71
Sub-total	...	....	...	....	....	....	−122.72	+22.24	+100.48
1946–47	− .20	+ 6.12	−5.92	+ 6.77 [f]	+ 1.43 [f]	− 8.20 [f]	+ 11.00	+ 1.87	− 12.86
1947–48	− .36	+ 1.28	− .92	−22.86	+13.39	+ 9.46	− 12.80	+ 3.35	+ 9.46
1948–49	+3.58	− .55	−3.03	− .34	+ 1.56	− 1.22	+ 2.18	+ 1.85	− 4.02
1949–50	−6.06	+ 2.56	+3.50	− 5.44	+ 5.10	+ .34	− 12.93	+ 7.28	+ 5.65
1950–51	−5.52	+ 2.50	+3.02	− .47	− .19	+ .66	− 34.11	+ 9.25	+ 24.86
1951–52	+2.00	− .27	−1.73	− 9.19	+ 4.24	+ 4.95	+ 1.20	+ 4.13	− 5.33
Sub-total	−6.56	+11.65	−5.08	−31.53	+25.54	+ 5.99	− 45.47	+27.73	+ 17.75
Grand total	−6.09	+11.62	−5.53	− 6.28	+27.16	−20.88	−183.45	+52.58	+130.88

[a] Figures may not check downward or across because of rounding.
[b] Computed by Method A (see text). Prewar years Chicago Board of Trade only; postwar years all markets combined.
[c] Computed by Method B (see text). Until August 1, 1945 New York and New Orleans only; thereafter all markets combined.
[d] Crop years start October 1 for corn, July 1 for wheat, August 1 for cotton.
[e] Excluding first two months.
[f] Excluding first six months.

gained. The small traders lost in the grains but did quite well in cotton, although it will be noted that of their total computed profit of $130.9 million no less than $100.5 million was made during the period 1940–46, which was excluded in the grains because of lack of data. In the case of the hedgers, only profits and losses on futures commitments are shown, which have to be offset against profits and losses in the cash market.

Most conspicuous in these results is the consistent profitability of the large speculators' transactions. In cotton they made a net profit in every year observed, and although in corn and wheat they lost in a few years, they never lost much. A tabulation of the monthly figures underlying Table 1 is shown in Table 2. It will be seen that the large speculators had net profits in 59 per cent of all months for corn, 61 per cent of all months for wheat, and 68 per cent of all months for cotton. If, to make the period for cotton comparable to the period for the grains, the crop years beginning in 1940 through 1945 are omitted, the percentage for cotton becomes 65 per cent. These scores are sufficiently different from 50 per cent to provide *prima facie* evidence of forecasting skill; some tests of this hypothesis will be presented below.

Less forecasting ability is apparent from the results of the small traders. They gained in 55 per cent of all months for corn, 46 per cent of all months for wheat, and 64 per cent of all months for cotton. Again leaving out the period 1940–46 the score for cotton drops to 61 per cent.

The main purpose of Table 2 is to show to what extent gains and losses are connected with a net long or net short position. Both large speculators and small traders are net long most of the time and therefore stand to gain when prices go up. During the period of observation cotton prices rose fairly steadily; wheat and corn prices declined on balance during each of the two sub-periods, though in corn the number of months with price rises exceeded the number with price falls. This behavior of prices explains a good deal of the discrepancy between small traders' results for grains and for cotton, especially when it is considered that in each of the three commodities small traders were net short about 20 per cent of the time. The latter figure, incidentally, shows that the traditional picture of the small speculator as an incurable bull, too ignorant to understand short selling, is incorrect. In fact, small traders do not appear to be less inclined to the short side than the large professional speculators. In cotton small traders were net short in 38 months as against only 11 for the large speculators. In grains the pattern, though opposite to that for cotton, is not very marked (20 against 25 for wheat, 21 against 24 for corn).

On the other hand it is clear that the small traders are rather less successful when net short than the large speculators in similar circumstances. Thus in wheat, although prices fell in 53 out of 102 months, the small traders were short mostly in months when prices were rising, whereas the large speculators in that market were remarkably accurate in their choice of the short side. There is some evidence, particularly from the early postwar years, that

TABLE 2. — NUMBER OF MONTHS WITH PROFITS AND LOSSES

Months with:	Corn			Wheat			Cotton		
	Prices rising	Prices falling	Total	Prices rising	Prices falling	Total	Prices rising	Prices falling	Total
Large speculators' net profit	52	12	64	43	19	62	116	5	121
Large speculators' net loss	12	32	44	6	34	40	6	48	54
Small traders' net profit	51	8	59	38	9	47	99	15	114
Small traders' net loss	13	36	49	11	44	55	23	39	62
Total months	64	44	108	49	53	102	122	54[a]	178[b]

[a] Including one month in which large speculators broke even.
[b] Including two months in which prices did not change.

TABLE 3. — PROFITS (+) AND LOSSES (−) OF THREE CATEGORIES OF TRADERS ON LONG AND SHORT POSITIONS [a]

($ million)

	Large hedgers			Large speculators			Small traders		
	Long	Short	Net	Long	Short	Net	Long	Short	Net
Corn									
1937–40	− .84	+ 1.31	+ .47	− .47	+ .44	− .02	− 1.67	+ 1.22	− .45
1946–52	+ 11.28	− 17.85	− 6.56	+ 27.97	− 16.32	+ 11.65	+ 34.74	− 39.83	− 5.08
Total	+ 10.44	− 16.54	− 6.09	+ 27.50	− 15.88	+ 11.63	+ 33.08	− 38.61	− 5.53
Wheat									
1937–40	− 4.79	+ 30.04	+ 25.26	− 8.68	+ 10.29	+ 1.61	− 40.98	+ 14.11	− 26.87
1947–52	+ 30.82	− 62.36	− 31.53	+ 41.99	− 16.44	+ 25.54	+ 57.20	− 51.21	+ 5.99
Total	+ 26.04	− 32.31	− 6.28	+ 33.31	− 6.15	+ 27.16	+ 16.22	− 37.10	− 20.88
Cotton									
1937–40	+ 9.99	− 25.26	− 15.27	+ 5.23	− 2.62	+ 2.61	+ 22.54	− 9.89	+ 12.65
1940–46	+ 49.30	−172.01	−122.72	+ 61.70	− 39.46	+ 22.24	+219.78	−119.31	+100.48
1946–52	+ 98.59	−144.06	− 45.47	+ 98.83	− 71.10	+ 27.73	+250.77	−233.02	+ 17.75
Total	+157.88	−341.34	−183.45	+165.75	−113.18	+ 52.58	+493.09	−361.21	+130.88
Total all commodities	+194.36	−390.19	−195.82	+226.56	−135.21	+ 91.36	+542.39	−437.92	+104.67

[a] The footnotes of Table 1 apply also to Table 3.

small traders were unduly cycle-conscious and therefore unwilling to believe that high prices could last for long. In the end this Cassandra attitude often turned out to be correct, but by then the initial losses had sometimes so undermined the small traders' courage or their margins that they were no longer able to reap the fruits of their badly-timed foresight. This happened for instance in the corn market during the boom of 1947. In the wheat market of 1947, too, small traders were initially speculating against the rapid price rise, but after a long period of losses they reversed themselves and made large profits from the tail end of the boom, only to lose again when prices broke early in 1948. If it is correct to explain the small speculators' actions by a belief that price rises will always be followed by falls, then the usual arguments about the destabilizing influence of speculation may require reconsideration.

In Table 3 the totals from Table 1 are analyzed by short and long positions. Apart from the difference in small traders' net profits noted previously, the general pattern is the same for the three commodities. The hedgers, who are nearly always net short in the futures markets, are the mainspring of profits for the other traders, who share in proportion to their net long position. In all three commodities the large speculators and small traders lost on balance on their short positions. It cannot be inferred from this that speculators would have done better to stick to the long side, for their short positions are often one half of a spread or straddle (i.e., they are offset by a long position in another delivery). Spreading is not only a means of saving on margin requirements [9] but it is helpful in distributing different maturities between speculators according to their preferences.[10]

The essence of futures trading, however, is the transfer of price risks from the hedgers to the speculators in return for a risk premium, and this is clearly illustrated in Table 3. Even in wheat and corn, where prices fell during the period of observation, a risk premium was produced. As it happened the whole premium went to the large speculators, who in addition obtained some of the small traders' funds. In cotton the risk premium went to both large and small traders. Of course a net risk premium accrues to speculators only in the long run, and not necessarily in any given period of time.

The exact mechanism by which the risk premium is transferred cannot be described in this paper. Its principal component is a tendency for the price of a futures contract to rise from the inception of trading to the delivery date. The existence of this tendency, which is implied by Keynes's theory of "normal backwardation," [11] can be statistically demonstrated in various ways.

The main implication for the present analysis is that *in the long run* no great amount of skill is necessary to make a profit in the futures market: all one has to do is to maintain a long position. In this way a trader, if he has enough patience and capital to cover temporary losses, will sooner or later secure his portion of the risk premium. If, moreover, he can predict short-term price movements more accurately than other speculators, and adjusts his position accordingly, he may make a further profit at their expense. Conversely if he is outguessed by other speculators he may lose his share of the risk premium and more. There are consequently two kinds of skill: general skill, which consists only in being long and requires no information, and special skill, which involves a continuous adjustment to changes in current information. The two types of skill may be positive or negative: a negative general skill means a proclivity for the short side, whereas a negative special skill implies a tendency to be short when prices go up and long when prices go down.

The extent to which a category of traders possesses these two skills may be measured (*ex post*) from the following equation:

$$y_t = \alpha + \beta x_t + \epsilon_t \qquad (1)$$

[9] Because the differences between the prices of various contracts (also known as "spreads") are less volatile than these prices themselves.

[10] J. M. Mehl, formerly Administrator of the Commodity Exchange Authority, ascribes the recent increase in spreading also to income tax considerations, since it permits the transformation of short-term into long-term profits. Cf. J. M. Mehl, *Futures Trading Under the Commodity Exchange Act 1946–54*, U.S. Department of Agriculture (December 1954), 20.

[11] J. M. Keynes, *Treatise on Money* (London, 1930), Vol. II, 142–44. See also J. R. Hicks, *Value and Capital* (Oxford, 1939), 137–39; and the monograph announced in footnote 1 above.

in which y_t is the net position of that category, at a certain time t (here, the end of each month); x_t is an index of the change in prices around time t (more particularly the index used to estimate gains and losses by Method B described above); and ϵ_t is a random disturbance. The general skill is reflected in the constant term α: it is clearly positive when the group tends to be long irrespective of price changes. The coefficient β measures the special skill. What matters for our purpose is not the absolute magnitude of the estimates of α and β, but rather their statistical significance, which can be found by comparing each estimate with its standard error.

standard errors in all three commodities. A conspicuous difference appears in the measure of special skill, however. The estimates of β for the small traders all fall short of their standard errors and must therefore be regarded as insignificant, with the exception of postwar wheat where the small traders' special skill appears to be significantly negative. The special skill coefficients for the large speculators are significantly positive in wheat and cotton but not in corn, where they are positive but very small.

It seems clear, therefore, that there are real differences in the ability of large and small traders to forecast price changes. This implies

TABLE 4. — ESTIMATES OF α AND β IN EQUATION (1), WITH STANDARD ERRORS (IN PARENTHESES) AND CORRELATION COEFFICIENTS

	Number of observations	Large speculators			Small traders		
		α	β	r	α	β	r
Corn [a]							
1937–40	36	4.20	+.0318	.0235	9.56	+.0206	.0082
		(.77)	(.232)		(1.42)	(.430)	
1946–52	72	4.72	+.0416	.0927	7.58	−.2220	.2533
		(.52)	(.051)		(1.03)	(.101)	
Wheat [a]							
1937–40	36	4.87	+.2375	.3451	43.13	−.3370	.0462
		(.72)	(.111)		(8.18)	(1.250)	
1947–52	66	6.48	+.2024	.2950	10.51	−.0770	.0553
		(.84)	(.082)		(1.79)	(.174)	
Cotton [b]							
1937–45	94	62.2	+31.59	.3030	621.6	−90.56	.0879
		(5.3)	(10.42)		(54.4)	(106.99)	
1945–52	84	121.7	+16.57	.2646	153.2	+26.01	.0889
		(9.9)	(6.67)		(47.1)	(31.81)	

[a] Net position in millions of bushels, price changes in cents per bushel.
[b] Net position in thousands of bales, price changes in cents per pound.

It is important to realize that (1) is not a behavior equation; it is purely an *ex-post* relation. Estimates of α and β are given in Table 4, with standard errors in brackets. The number of observations and the correlation coefficient are also given. As an aid in judging significance we note that if α or β is "really" zero, its estimate has a 30 per cent chance of exceeding its standard error and a 5 per cent chance of exceeding twice its standard error. It is hardly necessary to go into further refinements since the results are rather clear-cut.

Table 4 shows that both speculators and small traders possess general skill, since all the estimates of α very considerably exceed their

also that the differences in profits and losses exhibited in Tables 1–3 are not wholly due to random causes.

We must now consider another aspect of relative skill. So far we have looked only at the total net position of a category of traders, that is to say at the net position in all futures contracts combined. Since, however, the prices of different deliveries do not usually move in an exactly parallel manner, there is also scope for skill in choosing the futures in which to be long or short; this might be called distributive skill to distinguish it from the sort of skill analyzed in Table 4.[12]

[12] In principle this distributive skill might also be di-

It is possible to estimate distributive skill by comparing results from the two methods used for estimating profits and losses in Table 1. Method A, used there for corn and wheat, was based on the actual distribution between futures of commitments of the three groups of traders, whereas Method B, used for cotton, was based on the assumption that the distribution between futures was the same for all three groups. By applying Method B to the grains, and subtracting the gains or losses it gives from those estimated by Method A, we will therefore obtain a measure of the gains and losses due to a more or less skillful distribution of a given over-all position between different deliveries.

Table 5 shows that Method B gives smaller profits (or larger losses) to the large hedgers and large speculators, and larger profits (or smaller losses) to the small traders. This would imply that the large traders have a positive distributive skill. The differences between the results from Methods A and B are not large, however, and the question arises whether they are not merely due to an accumulation of random errors. By way of a crude test [13] it was found that the large corn speculators showed evidence of positive distributive skill in 54 months out of 108, negative skill in 51 months, and equal results from Methods A and B in the remaining 3 months. The small corn traders showed positive distributive skill in 43 months, negative skill in 62 months, and zero skill in 3 months. In wheat the large speculators showed positive skill in 56 months out of 102, negative skill in 41 months, and a tie in 5 months; for the small traders these figures were respectively 42, 59, and 1. On the basis of these figures the apparent positive distributive skill of the large speculators is not statistically significant; the apparent negative distributive skill of the small traders, on the other hand, cannot plausibly be attributed to random causes only.[14]

TABLE 5. — ANALYSIS OF DISTRIBUTIVE SKILL
(*$ million*)

	Large hedgers		Large speculators		Small traders	
	Method B	Method A — Method B	Method B	Method A — Method B	Method B	Method A — Method B
Corn						
1937–40	+ .40	+ .07	− .07	+ .05	− .33	− .12
1946–52	− 7.49	+ .93	+11.32	+ .33	− 3.83	−1.25
Total	− 7.09	+1.00	+11.25	+ .38	− 4.16	−1.37
Wheat						
1937–40	+25.04	+ .22	+ 1.29	+ .32	−26.33	− .54
1947–52	−32.59	+1.06	+22.99	+2.55	+ 9.60	−3.61
Total	− 7.56	+1.28	+24.29	+2.87	−16.73	−4.15

It appears, therefore, that the distribution between futures is one of the factors influencing the relative profitability of large and small traders' commitments. Further evidence on this point is provided by an analysis of the monthly profits and losses in corn and wheat for individual futures contracts. For this purpose futures have been grouped together according to their distance from maturity. Thus at the end of February the May future is regarded as 3 months distant from maturity, the July future as 5 months distant, and so on. The expiring future (in this case the March future) is consequently treated as one month away. Then the profits and losses on all futures one month distant from maturity, 2 months distant, and so on, were added up. The totals appear in Table 6.

vided into general distributive skill, leading to a long position in those contracts which *on the average* tend to go up most, and special distributive skill, consisting in an ability to buy those futures which *in a given period of time* will go up most or sell those which fall most. It does not appear, however, that different deliveries have markedly different rates of average increase in the long run. There would consequently be no scope for general distributive skill, and the distinction between general and special skill would be redundant here.

[13] More refined tests could not be applied either here or in Table 2 because the distribution of gains and losses is not of the normal type.

[14] If distributive skill were really zero, so that positive and negative skill was equally likely, the standard error for each of the grains would be about 5 months.

TABLE 6. — NET PROFITS AND LOSSES OF THREE CATEGORIES OF TRADERS BY DISTANCE FROM MATURITY OF FUTURES CONTRACTS

($ million)

Months from maturity	Corn			Wheat		
	Large hedgers	Large speculators	Small traders	Large hedgers	Large speculators	Small traders
1	−2.59	+ 4.37	− 1.78	− 1.04	+ 4.57	− 3.53
2	−1.47	+ 5.29	− 3.82	+ 8.90	+ 4.03	−12.93
3	+ .59	− .23	− .36	+16.01	+ 4.13	−20.14
4	+3.85	− 1.25	− 2.61	− 3.32	+ 5.25	− 1.93
5	− .54	+ 2.57	− 2.02	+ 5.73	+ 1.72	− 7.44
6	−2.63	+ 3.13	− .50	− 9.45	+ 5.00	+ 4.45
7	−1.87	+ .48	+ 1.39	− 5.68	+ 1.82	+ 3.86
8	− .84	− 1.08	+ 1.92	− 8.26	+ 1.33	+ 6.93
9	− .56	− .60	+ 1.16	− 9.06	+ .67	+ 8.39
10	− .03	− .77	+ .80	− .16	− .71	+ .86
11	− .01	− .27	+ .28	+ .06	− .67	+ .61
Total	−6.09	+11.62	− 5.53	− 6.28	+27.16	−20.88
1– 6	−2.79	+13.88	−11.09	+16.82	+24.71	−41.53
7–11	−3.30	− 2.26	+ 5.56	−23.09	+ 2.45	+20.65

Although the results are not as clear-cut as they might be we can nevertheless find some indication of a difference in success according to the distance from maturity. The large speculators do better in the near futures (those close to maturity) than in the very distant ones, and the opposite is true for the small trader. The exceptions as regards the large speculators are the corn futures three or four months distant from maturity, in which they lose, in common with the small traders, and in which, consequently, the hedgers gain. The last two lines of Table 6 show that small traders lost twice as much in the near futures as they gained in the distant futures. It would be interesting to do the same analysis for cotton, but the data are not available.

It is not difficult to explain these differences. The price behavior of the near futures depends to a large extent on the magnitude and ownership of deliverable stocks at the relevant terminals (Chicago, Kansas City, and Minneapolis for wheat, Chicago for corn), and this is a matter on which non-professionals cannot easily inform themselves. Price movements in the more distant contracts, on the other hand, are influenced mainly by basic supply and demand factors such as crop prospects, the general economic outlook, or government policy. In evaluating the latter factors the professionals have no particular comparative advantage. Indeed it is often profitable for them to use their superior knowledge by taking a long or short position in the near futures, at the same time taking an opposite position in the more distant deliveries in order to limit their risks. We have already mentioned that such spreading accounts for a major part of the large speculator's operations. By taking the other side of the distant half of these spreads the small traders may then earn a risk premium from the professionals; the other side of the near half is more likely to be taken by hedgers, who rarely go into distant futures. This type of spreading is quite similar to hedging, which is based on hedgers' superior knowledge of the cash market.

Returning now to the question raised in the title we conclude that large speculators show definite evidence of forecasting skill, both in the long and in the short run. Since these large speculators are professionals whose existence depends on their skill, this finding is hardly revolutionary, edifying though it is to see virtue rewarded. The experience of the small traders indicates that they do quite well when they stick to the long side, where the theory of "normal backwardation" assures them of a profit in the long run, but they show no evidence of ability to forecast short-run price movements. It appears, moreover, that non-professionals would have done well to confine themselves to the more distant futures.