Not many people have heard of Commodities Corp. But its erudite traders managed to make money even in December's disastrous markets.

Princeton's Rich Commodity Scholars

by SHAWN TULLY

On a sleepy country road in Princeton, New Jersey, a wooden shingle bears the inscription "Commodities Corp." An old stone farmhouse turned office building, the corporate headquarters looks like another of the laboratories that cluster around the college town. The secluded campus-like setting is well chosen. Commodities Corp., a privately held commodity-trading company, is indeed a kind of think tank. And it is so secretive that its managers have never granted the press an interview.

Eight Ph.D.s are on the firm's professional staff of 40. Commodities Corp.'s researchers sift through mounds of data on every commodity from alcohol to zinc, and its traders are as nimble with the computer as most people are with a calculator. One of its founders—and still a board member and active counselor—is Paul Samuelson, the Nobel Prize winner and author of the all-time best-selling college textbook on economics.

Research associate: Lorraine Carson

Despite the academic trappings, the company is a model of bustling entrepreneurship. "Commodities Corp. barely owns anything that can't be turned into cash in a matter of hours," marvels Norton E. Smith, a consultant to the company. "It's like a big pile of money."

One of a rare breed

At the beginning of fiscal 1980, Commodities Corp. had capital of $30 million, which it invested so successfully that profits from trading amounted to $42 million during the year. Even after shelling out $13 million in bonuses for its 140 employees, the tiny firm posted net income of $17 million for the fiscal year, which ended March 31. That was more than the net income of 58 of the FORTUNE 500 companies. In December, when many investors took a beating in collapsing commodities markets—one public fund went bust—Commodities Corp. cleaned up by selling short virtually across the board.

Commodities Corp. is a rare breed, a cross between a cautious wholesaler and a freewheeling speculator. The firm has big holdings in pork bellies (bacon), cattle, and cocoa press cake, which will be pulverized into cocoa powder, the key ingredient of chocolate. Like Engelhard, Cargill, and other companies that deal in "physicals"—the actual goods—Commodities Corp. locks in a profit by contracting to sell its inventories of commodities in a future month. Commodities Corp. also gambles: it buys and sells futures contracts for goods it doesn't have in inventory, something the other big wholesalers swear they don't do.

Only the most daring speculators can rival Commodities Corp.'s track record. In fiscal 1980 it hoisted stockholders' equity per share 114%. That beat the per-

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This $15,000 satellite dish sits on the front lawn of Commodities Corp.'s rustic headquarters in Princeton, New Jersey, bringing in Reuters' worldwide commodities service at the rate of 5.1 million bits of data per second (conventional telephone lines can carry only 4,800). Traders can call up the information instantly on video screens in their offices—price quotations from the major exchanges, business news affecting commodities, and crop and weather data. Commodities Corp.'s headquarters started out as a farmhouse; the firm lavished $4.3 million on improvements and additions in 1980.

formance of the 11 commodity-futures mutual funds studied by the Norwood Index, a Chicago statistical service. At the start of its 1981 fiscal year, Commodities Corp. was managing equity of $33.4 million, more than any of these public funds.

The Princeton firm has grown large by paying only token dividends and pyramiding retained earnings. The shareholders have hardly put up a dime above the original seed money of $2.5 million they chipped in in 1969. With that record behind it, Commodities Corp. has now teamed up with Paine Webber Jackson & Curtis to start a public commodities fund called the Princeton Futures Fund. Paine Webber, the general partner, set out to raise $23 million from limited partners who put up a minimum of $5,000 apiece, and expects to sell out the issue by mid-February. Commodities Corp. will make the investment decisions.

Commodities Corp. is set up as a group of traders. Though subject to a tough set of financial controls, they are free to trade any way they want, and to come and go as they please. The firm's credo seems to be that any theory is good as long as it makes money. The atmosphere is as clubby and low-keyed as that of an Ivy League university. Academic pedigree counts: in a booklet the firm sends to stockholders as a supplement to the annual report, each executive's schooling is set forth in detail. One typically well-educated trader, André Dudek, 33, is French, has a B.A. in literature from the University of Tours, an M.A. and Ph.D. in archaeology from the Sorbonne, and an MBA from Northwestern.

In the office, traders wear casually preppy blazers and crew-neck sweaters. At times, they call in orders from the beach at Martinique or the ski slopes at Vail. If they abuse their freedom, and fail to show up at the office for six months or so, the firm may penalize them by cutting off their pay until they turn up in Princeton again. Commodities Corp. rewards its workers generously. Last year, the firm's 40 executives and traders each received an average of $300,000 in bonuses in addition to salaries that average less than $50,000. Secretaries got bonuses of as much as $3,000 apiece.

The men who founded and still guide Commodities Corp. are an unusual combination, intellectuals who admit to a hunger for making money. The president, Helmut Weymar, 44, made his first foray into the commodities markets as an undergraduate at MIT, when he bought $10,000 worth of frozen orange-juice concentrate from a wholesaler. Six months later, he sold out and doubled his money. The man who advised Weymar on the deal and lent him the money was Amos Hostetter, the father of a childhood friend and a legendary commodities trader for the brokerage firm of Hayden Stone.

The all-water diet

Besides being an instinctive trader—he deals in antiques in his spare time—Weymar is a scholar with a near obsession to learn all he can about commodities. His boyish good looks mask the intensity with which he attacks every project. He also likes to experiment. He once went on an all-water diet for five days, and several years ago became fascinated by biofeedback. Attaching an electrode to his head, he watches his brain waves on a screen and attempts to control them; one aim is to speed up the learning process.

At MIT in 1965, he completed his Ph.D. thesis, an econometric model that forecast prices for one of the most volatile commodities, cocoa. One of his thesis advisers was Paul Samuelson. Weymar then took a job advising Nabisco on how to buy cocoa and other commodities. In 1969, the model he had developed for his thesis predicted a sharp rise in cocoa prices; Nabisco acted on the model's advice and reaped a huge inventory profit. Heartened by his coup, and tired of the three-hour-a-day commute by train be-

The son of a brewmaster, Helmut Weymar, 44, president of Commodities Corp., got started in commodities as an MIT undergraduate. His Ph.D. thesis, *The Dynamics of the World Cocoa Market*, was published by MIT Press in 1968.

tween his home in Princeton and his office in New York, Weymar set out to raise capital for his own trading company.

Weymar assembled six traders who provided a rich blend of talents in computer programming and scientific analysis of financial markets, particularly commodities. The group included Frank Vannerson, an associate at Nabisco who had invented a model predicting wheat prices as a Princeton Ph.D. thesis; Paul Cootner, an MIT finance professor and pioneer in developing the "random walk" theory of stock prices, which says that changes in price from day to day are unrelated to one another; and Weymar's mentor, Amos Hostetter, who agreed to trade part-time for Commodities Corp.

Weymar had hoped to raise $5 million, but his brainchild was so original that investors were wary, and he had to settle for half. The six would-be traders could come up with a total of only $50,000 themselves, but were allowed to keep up to 40% of the equity, depending on how they performed. Weymar's old employer, Nabisco, purchased 12.5% for $500,000, and his old teacher, Samuelson, took 3.1% for $125,000. Other investors included United Brands and Tom Marsh, a Texas natural-gas heir whose brother Stanley owns a famous example of "earth art": an "automobile graveyard" near Amarillo full of Cadillacs buried up to the windshield. A last big chunk of cash—$1 million—came from Heizer Corp., the Chicago venture-capital company.

Formulas on a blackboard

Over the harsh two years that followed, 1970 and 1971, Commodities Corp. learned that brilliant traders and sophisticated computer models aren't always enough to win the commodities game. At first, the firm dealt in only a few commodities, followed a single trading philosophy, and had inadequate financial controls. Most of the traders specialized in one commodity. Weymar handled cocoa, Vannerson wheat, Cootner pork bellies. They exchanged trading theories once a week during a three-hour seminar at which one trader would present a paper, often filling a blackboard with mathematical formulas predicting price changes in his commodity.

Commodities Corp.'s traders were then disciples of fundamental analysis. In commodities, as in the stock market, "fundamental" and "technical" analysis are the two major schools of investing. The fundamentalist studies the economic realities—supply-and-demand factors—that underlie market values. The technician focuses on price and market-volume information and examines past trends in the belief that old patterns will repeat themselves.

As a fundamentalist, Weymar fed the cocoa model he'd developed in his thesis with a vast array of supply-and-demand information. He compiled the history of rainfall and humidity for the cocoa-growing countries of Africa and correlated it with the size of the harvest. That enabled him to evaluate the maturing crops in the plantations of Ghana and Ivory Coast before publication of government figures, which were often inaccurate anyway. Weymar hired his own cocoa-pod counter, a German who toured African cocoa fields in a Land Rover, examining the same cocoa trees several times during the growing season and recording the number, length, and condition of the pods. Since a cocoa tree is as tall as an apple tree and contains about 25 pods, the counter at times suffered from a stiff neck. To make matters worse, the Land Rover broke down a lot.

Despite their thoroughness, the fundamentalist traders didn't perform much better than the Land Rover. In 1970, its first year, Commodities Corp. lost $100,000. At a board meeting, Weymar and Vannerson proposed diversifying by developing a technical trading system. Samuelson and Cootner, firm adherents of the random-walk theory for commodities as well as stocks, tried to discourage the idea. How a commodity's price changed yesterday, they contended, tells an investor nothing about how it will perform tomorrow.

"Never mind the cheese"

Amos Hostetter sided with Weymar. The trader Weymar affectionately referred to as "our 70-year-old guru" was basically a fundamentalist, but he also followed price patterns. Hostetter never bucked a trend in prices for long, no matter what the fundamentalists said. When he decided that a market's supply-and-demand prospects looked good, he put up one-third of his ultimate position. If he lost 25% of that stake, he'd get out. "Never mind the cheese," he'd crack, "let me out of the trap."

If the market swung his way, he'd add another third, taking a final position when prices had climbed half as high as he thought they'd go. Commodities Corp. paid Hostetter the tribute of computerizing the history of some of his old accounts to examine how he'd "built a position" as prices shifted. These studies became informal guidelines for the firm's other traders.

Hostetter himself learned Fortran, a computer language, so he could help out with programming, as he did for seven years until he died in a 1977 auto accident. "He was the most remarkable investor I ever knew," says Samuelson. "He made money in commodities 50 years straight. The challenge was to make his methods reproducible for others who didn't have his flair or caliber."

At Hostetter's urging, Weymar assigned Vannerson to set up a technical system known as "trend following." In its simplest form, trend following instructs a speculator to buy a commodity

Portraits by Joan Berg Victor

whenever the price goes up, and sell it when the price goes down. An investor has to get in or out of the commodity every time the price reverses, so that he's constantly whipsawed by small losses. The goal, of course, is to outstrip those losses by catching a long upward or downward move.

Vannerson aimed at a more sophisticated trend-following system. To avoid being whipsawed, he wanted to figure out the pattern in which a price starts up or down at the beginning of a real trend. He computerized the daily prices of 15 commodities over at least ten years and found that each commodity has its own "personality." In a volatile commodity such as pork bellies, a sharp drop in price in a single day signaled a decline of at least two weeks, while goods such as corn began a downward sweep by slipping gradually over several days.

Vannerson's research produced a "technical computer system," or TCS—a trend-following scheme that, unlike fundamental analysis, doesn't predict where prices will eventually go, but signals when to hop in and out to catch short moves. Naturally, the longer the trend, the better. Commodities Corp. set up a TCS fund in 1970 to trade 15 commodities, including cocoa, copper, cotton, and soybeans.

At the time TCS was born, the fundamentalists still had control of most of the trading capital, and in 1971 they had heavy losses. In a ten-day period, the corn and wheat traders dropped $600,000. Weymar's model, which had performed so brilliantly at Nabisco, also backfired. It was telling him that cocoa crops would be small, and prices had to go up. Nevertheless, prices plunged. Weymar lost almost $400,000 over several months by sticking to his model. TCS saw the downswing coming and sold cocoa.

Reining in the egos

In 1971, the six traders were down to about $1 million in equity, less than half their original stake, and their ownership of Commodities Corp. had dropped to 10% because of poor performance. They

Paul Samuelson, 65, the distinguished MIT economist, estimates the market value of Commodities Corp., of which he is a founder and shareholder, at over $70 million. If he is right, Samuelson has made at least $2 million in 11 years on an investment of $125,000.

decided that they needed failsafe controls to prevent a repeat of the cocoa disaster. Under the financial guidelines then in force, the trading capital was in one big pot, and the traders could dip into it as they wanted. There was only one restriction: the firm penalized the trader by charging high interest rates on his trading funds if he added to an already large and volatile position, and subsidized him with lower interest rates if he did the reverse. A trader had to be brimming with confidence to plunge deeper into a turbulent market.

Although the plan looked good on paper, it was unwieldy in practice. Commodities Corp. had to make sure it didn't drown with a trader who was positive he was right while the market was telling him he was wrong. However brilliant, a trader could be misled by his model or his ego. The trick was to design a system that granted the freedom to gamble and experiment, but blocked mistakes from cutting too deep.

Over the next few months, the trading team spent many late nights devising a framework of controls that is still in use today. It imposes two principal controls. First, each trader is a profit center. At the beginning of each fiscal year, he is handed a "trading fund," based on his prior year's performance. The system grants the trader a free hand as long as he is making money, but it bears down on him if he starts to slip. If he loses 50% of his initial capital, he must sell off his position and take a month off from trading to write a memo to a management committee explaining what went wrong.

The second control formalizes the sort of guidelines Hostetter had been using for decades. The control is tied to the signals generated by the TCS system. If a trader holds cocoa futures, for example, and TCS detects that prices are headed downward, he is forced to get all but 10% of his capital out of cocoa. If he is authorized to trade several commodities in which TCS sees a downward trend, he has to get all but 20% of his total funds out of those goods. In other words, a trader can put up very little money bucking a trend. TCS has become the traders' watchdog as well as a robotized commodities gambler. TCS's trading record has won over even Samuelson. Today, in fact, the TCS fund manages some of his personal money.

"Mortgage the house and buy"

The early chastening and Hostetter's tutelage gave the firm a balanced approach to speculation. Traders searched out markets where fundamental and technical analysis pointed in the same direction. They found that scenario many times in the 1970s, when commodities prices started to move in the big waves traders love. Commodities Corp. picked its first big winners in the late spring of 1972, when Vannerson and the firm's corn trader saw what they called a "mortgage-the-house-and-buy" situation developing in wheat and corn.

Since prices and market volume in both commodities were low, they reckoned that a short dry spell could set off a buying frenzy. Besides, rumor had it that the Russian grain crop would be disastrously small. Vannerson and his colleagues took a large position in corn at $1.23 a bushel and in wheat at $1.47. They made a killing as massive Russian grain purchases sent corn prices hurtling to $3.50 and wheat to $5.40 by mid-1973.

Commodities Corp. also caught the rampaging bull markets in soybeans and cocoa. Starting in 1974, Weymar almost flawlessly called every big move in cocoa over the next four years. He melded the crop forecasts and other data into price estimates so precise that he made $10 million in trading profits between 1975 and 1978, the year he amassed a spectacular $5.7 million before stepping down as a trader to become a full-time manager.

Although cocoa has been Commodities Corp.'s biggest winner, the firm learned from the 1971 fiasco the benefits of diversification, adding new commodities to its portfolio each year. The diversification extends to trading styles. The firm has lured a number of fundamental and technical star traders away from the floors of the exchanges and from such firms as Continental Grain, Louis Dreyfus, and Merrill Lynch. Most of the big guns are "generalists," traders empowered to deal in a broad range of commodities. The generalists have done so well that last year they were handling about $30 million, half the trading capital.

The TCS control function has kept losses in check. In a single year, Commodities Corp. has never lost over $1.2 million in any one commodity, while gains in a single commodity have often topped $3 million. In its trading over the past six years, TCS has done even better than the firm's overall 47% pretax return on equity.

Up against the limits

Commodities Corp.'s biggest headache comes from doing so well. Like the big public commodities funds, its huge holdings of some commodities butt up against the position limits imposed by the exchanges. As a result, it may have to start putting more of its money into lower-yielding commodities.

That move would slow Commodities Corp.'s record-setting growth in equity per share, but Helmut Weymar doesn't seem worried. To him, business and the life of the mind go hand in hand. And in 1981, come boom or come bust in the commodities markets, he's going on a sabbatical leave to take courses in art history and political science at the University of Sydney in Australia. ■