

"The door to the past is a strange door. It swings open and things pass through it, but they pass in one direction only. No man can return across that threshold, though he can look down still and see the green light waver in the water weeds."

—Loren Eiseley

## 8 *The Cycle of Prices*

Every time you make a major purchase you are, at least partially, trying to forecast the future price of that item.

Should you buy that new home now, or wait for real-estate prices to go down? Of course, they might go up. Should you trade your automobile now, or will you get a better price deal in December? Corporations try to anticipate the moment when their new bond issue will bring the best possible price and housewives are always trying to outguess the supermarket manager.

Prices are affected by many forces, such as inflation, war, supply and demand, devaluation of currency, price controls, and changes in tariff laws. But underlying all these obvious and well-known causes is the mysterious and imposing force called rhythm.

Since World War II, prices have incessantly climbed to higher and higher plateaus, but even in their relentless upward movement they bob up and down in a behavior pattern that gives evidence of rhythm. They fluctuate, for the most part, in cycles, and this strange behavior seemingly has nothing to do with supply and demand, inflation, or any of the other well-known economic forces.

You cannot afford to ignore this inexplicable rhythmic behavior or you will be driving blindly through life. It is as if you were at the wheel of an automobile, driving backward at a speed of sixty miles per hour on a winding road with your accelerator stuck and

your brakes out of order. To add to your predicament, you have no rear-view mirror and you cannot turn your head to look at the road you are about to travel. All you can do is glance out of your side windows—and that's about all you can do when you look at today's prices.

In real life you can see what is happening *now* . . . but you cannot see, even one minute ahead, what *will* happen. Moreover, you are always being propelled, irresistibly, at a constant speed of sixty minutes to the hour. You can't stop, you can't pause, you can't even slow down. And, like your suicidal automobile trip, if you don't guess right, you may be in for serious trouble.

Of course, in driving your automobile backward you might spot a clue or two which would help you decide the curves in the road. Perhaps to your right there are converging hills and to your left there is a stream running parallel to the road. Telephone poles might appear every so often, if you don't hit one of them.

In forecasting the future price of anything you have clues of this sort too, but the odds are still fifty-fifty that you will guess wrong. Ask any expert trader in the commodity and stock exchanges and he will quickly corroborate one fact that is so obvious that it is usually ignored—nearly every transaction involves one correct and one incorrect forecast of the future price of that item. Nearly every commodity price, every stock price, and anything else you care to name is either going up or down, perhaps in the next hour, the next day, the next week. Whenever a trade is made, one of the two parties involved, either the buyer or the seller, has guessed wrong about the future price of whatever was traded, despite all the facts and advice that are available.

But . . . what if, while driving "blind" and backward, unable to see what is approaching, you suddenly realize that your road has a *pattern*? Wouldn't it be amazing if you discovered that it has *structure* and, insofar as this structure can be learned, the coming bends of the road are *predictable*?

Cycles have this structure, and although we still have much to learn, they can be used now to *help* us make forecasts. And regardless of how good or how practical the forecasts may be, the wondrous thing is that *from internal evidence alone* they can be made at all! We will improve our results as we learn more about our mystery and its cause.

Joseph, in biblical times, predicted a cycle of seven fat years followed by seven lean years, and the Pharaoh followed his advice to store up surplus food during the years of plenty so that there would be ample food during the years of shortage. After Joseph, the world waited several thousand years before another man was to come along and point out cycles in commodities and their prices. The Pharaoh listened to Joseph. The world has yet to heed the words of Samuel Benner. Joseph, presumably, had rare gifts of prophecy. Benner had only figures, graphs, and charts.

### *The Prophet from Bainbridge*

Samuel Turner Benner was born at Bloom Furnace, Ohio, in 1832. As a youth he worked in his father's iron works and after his Civil War service he married a senator's daughter, Ellen Salts, and became a prosperous hog and corn farmer in Bainbridge, Ohio.

In 1873 he suffered two setbacks over which he had no control. Hog cholera and the 1873 panic drove Sam Benner into bankruptcy. Penniless, he accepted help from his father-in-law, and with their only son, Stephen, the Benners moved to a farm in Dundas, Ohio, that had been placed in his wife's name.

Benner continued to farm, but now his mind was on other matters. He was determined to learn what caused panics, what caused the ups and downs in prices, and how to stay prosperous through good times and bad. In 1875, at the age of forty-three, he copyrighted his famous *Prophecies*, which were published under the title of *Benner's Prophecies of Future Ups and Downs in Prices*. Yearly thereafter he added postscripts and supplemental forecasts until 1907. He died in 1913 at the age of eighty-one, and someday history will proclaim him the father of cycle study in America, for he, like Leeuwenhoek with his microscope, opened up a completely new world of knowledge.

Leeuwenhoek's discovery of microbes did not benefit mankind until 200 years after his first observations. Hopefully the world is no longer on that same timetable, for we cannot afford to wait the 200 years until 2075 to convert Benner's discoveries of 1875 into a force for good. The world cannot continue to drive blindly for another century.

Benner's major contributions to the knowledge of cycles were in

the price fluctuations of pig iron and corn. He discovered a nine-year cycle in pig-iron prices with high prices following a pattern of eight, nine, and ten years and then repeating, with lows following a pattern of nine, seven, and eleven years and then repeating (see Figure 26).

Had you traded pig iron from 1875 to 1935 on the basis of Benner's cycle you would have made forty-four times as much as you lost.

Since 1939 Benner's forecast has not fared well. The true length of the cycle in pig-iron prices, as we now know, is 9.2 years instead of nine years, and Benner admitted that he did not know how to deal with cycles of fractional length.

Gradually Benner's forecast got out of step with reality, but he never expected his original forecast, made in 1875, to hold true for more than twenty years. Were Benner still alive and issuing yearly supplements to his *Prophecies*, he probably would have learned all that was necessary to know about cycles of fractional length and would have adjusted later forecasts accordingly.

But we do not need to provide this great pioneer with any alibis. Benner's accurate forecast of pig-iron prices for sixty years is the most notable forecast of prices in existence. He also discovered cycles in cotton, wheat, and pork prices, and a cycle in panics or depressions averaging eighteen years in length. I ask you to keep that length in mind as we explore our Foundation files for some other examples of cycles in various phenomena.

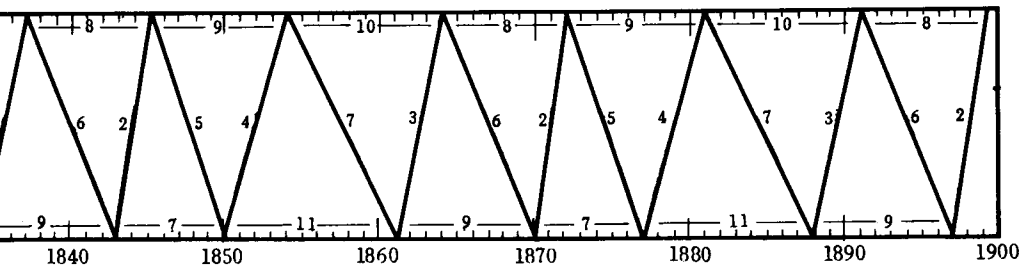


Fig. 26. Benner's 9-Year Cycle in Pig-Iron Prices, 1834-1900

This chart is based on the work of Samuel Benner, first published in 1876. It was so accurate in forecasting the pig-iron price cycle that it had a gain-loss ratio of 44 to 1 up to World War II.

*The Fifty-Four-Year Cycle in European Wheat Prices*

*Cycles*, November 1962— “One of the reasons that people believe in the reality and significance of the 54-year cycle is the fact that Lord Beveridge discovered a cycle of this length in his famous periodogram analysis of European wheat prices, 1500 to 1869.

“. . . As so much of the belief in the significance of the 54-year cycle in all sorts of things depends upon this work of Lord Beveridge, I thought it desirable to examine his figures to see if there was a *rhythmic* cycle of this length actually present in his figures. I have done so. The result is shown [Figure 27]. Unquestionably, the figures *do* evidence a rhythm . . . the ups and downs do repeat time after time with a beat.

“. . . This does not mean that the crests and troughs come exactly 54 years from each other. The actual highs and lows are distorted, one way or another, by randoms and other cycles. There is, however, a *tendency* for *areas* of strength to follow each other at 50 to 60 year intervals and for such areas of strength to be separated by corresponding areas of weakness. As we look at the chart we see strength, weakness, strength, weakness, etc., repeated time after time across the page. Fifty-four years is the length of the perfectly regular cycle that most nearly fits these various successive waves.

“. . . The 54-year cycle discovered by Lord Beveridge therefore is not a statistical abstraction; it does refer to a physical reality. It is a reality in the United States, also.

“. . . Wheat prices in England are readily available from 1259. These longer series of figures have also been studied, and the 54-year cycle persists throughout . . . adding even more credence to the significance and the permanence of this important cycle.”

Three months later I commented further about England's wheat-price cycle:

*Cycles*, February 1963— “Of course, it is not surprising that from 1500 to 1869 English and European wheat prices behaved more or less the same way, but my recent work adds new elements to the picture. First, in England, the wheat prices from 1500 to 1869 really had rhythmic waves, something that Beveridge's work had not gone far enough to show. Second, I discovered that the

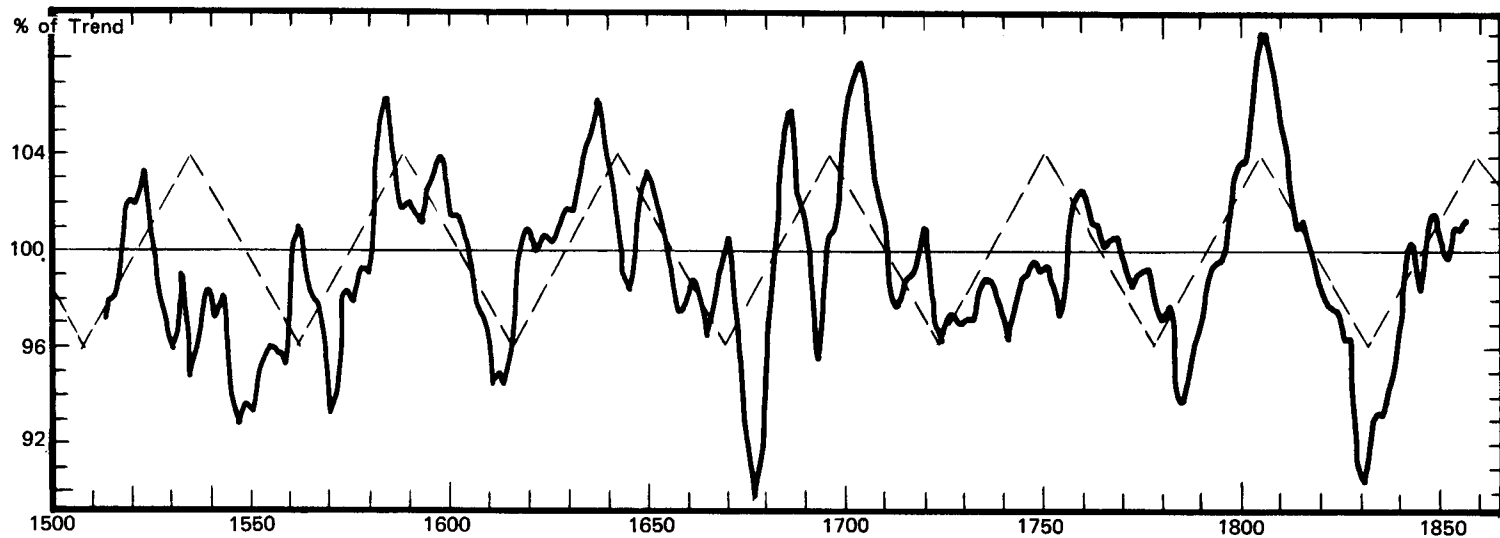


Fig. 27. The 54-Year Cycle in European Wheat Prices, 1513-1856

waves had continued *forward* from 1869 to 1940 and *backward* from 1500 to 1260! Lastly, over this much longer span of time the length really did seem to hold up very close to 54 years.

"I hope you realize what a very stupendous thing it is that a rhythm should persist in a price series for over 700 years. The year 1260 is *very* long ago. It is a mere 200 years after the Norman conquest; a full 200 years before the discovery of America; more than 400 years before the Industrial Revolution. Yet, over this long period of time . . . through wars, expansion, change from a feudal to a freehold agriculture and from a freehold agriculture to an industrial economy . . . the beat of 50 to 60 years has continued and has dominated!

". . . A few years later, in 1949, studying some figures relative to the thickness and thinness of Arizona tree rings, I discovered that these figures, too, from 1100 to date, had what seemed to be a 54-year cycle. Here was something really important. If a natural science phenomenon like tree-ring widths has the same cycle as economic phenomena, we are on notice that we may be dealing with something much more fundamental than the mere ebb and flow of human price and production behavior."

In 1926 N. D. Kondratieff, Director of the Conjuncture Institute of Moscow, published a paper that announced that throughout the Western world economic phenomena went up and down more or less together in oscillations that had been, for the last two or three waves, about a half-century long. His work posed questions whose answers we are still seeking. Why do economic affairs fluctuate in rhythm? Why do economic affairs in all these divergent countries go up and down together? What is the cause?

### *The 3½-3¾-Year Cycle in Corn Prices*

*Cycles*, October 1955— "With a few minor exceptions corn prices in America are available from 1720 to the present. [Prices prior to the Revolutionary War were converted from British shillings for this cycle study.]

". . . There are a powerful lot of months from January, 1720, to December, 1954, 2,820 to be exact.

". . . Even the most casual study of a chart of corn prices, 1720

to date, shows evidence of a cycle a little less than four years long which repeats time after time with reasonable regularity."

This cycle has behaved in a unique manner since 1720, a behavior not calculated to make our job any easier. It changes its rhythm! After two  $4\frac{3}{4}$ -year waves it averaged  $3\frac{2}{3}$  years from top to top for twenty-five repetitions, until 1826. Then it shortened its beat to  $3\frac{1}{2}$  years for five repetitions. Then, just as suddenly, its length became  $4\frac{1}{2}$  years for four repetitions to 1860. From 1860 it has settled down to a regular  $3\frac{1}{2}$  years (see Figure 28) for twenty-five repetitions! Neither the early cycle of  $3\frac{2}{3}$  years, repeating for ninety-two years, nor the recent cycle of  $3\frac{1}{2}$  years, repeating for the past ninety-five years, behaved with such amazing regularity purely by chance. But what force caused the cadence to change?

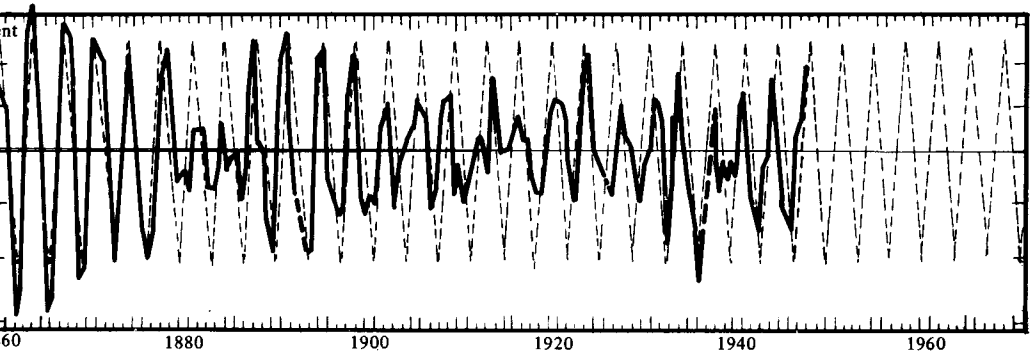


Fig. 28. The  $3\frac{1}{2}$ -Year Cycle in Corn Prices, 1860-1948

#### *The $17\frac{3}{4}$ -Year Cycle in Cotton Prices*

*Cycles*, January 1955— "Cotton prices for over 220 years have been characterized by a rhythmic cycle about  $17\frac{3}{4}$  years in length [see Figure 29].

" . . . The typical cycle crests ideally in November, 1775, and every 17.75 years thereafter.

" . . . You must not think of this cycle (or any other cycle) in terms of its ideal crest. Think of it rather in terms of *areas* of strength and *areas* of weakness.



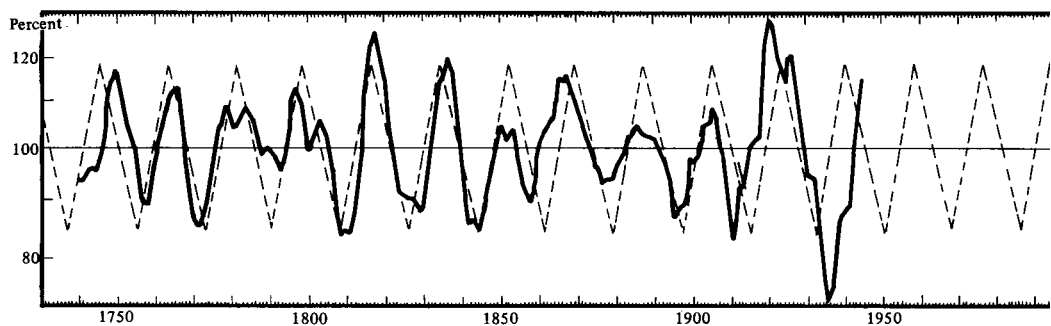


Fig. 29. The  $17\frac{3}{4}$ -Year Cycle in Cotton Prices, 1740–1945

“. . . In the past we have had 21 tops and bottoms . . . 15 came on time or within 2 years of perfect timing, 4 came 3 years one way or the other of perfect timing, 1 was 4 years off and 1 was 5 years off.

“. . . Let me remind you, again, that the  $17\frac{3}{4}$ -year cycle in cotton prices is only one of many cycles present in these figures. It's like the shortening in a pie crust, important as an *ingredient* in a forecast, but by itself it doesn't taste very good. If, however, you combine the  $17\frac{3}{4}$ -year cycle in cotton prices with the 5.91-year cycle in these figures, you can expect results better than by using either alone. If you add in more cycles, you could hope for an even better forecast.”

I hope you took special note of the previous paragraph. It is included from the original 1955 article for a special reason. In it, and for the first time in this book, you are being put on notice that many phenomena have more than one cycle length and act as if they were influenced simultaneously by more than one cyclic force. We will return to this unsettling notion a little later.

#### *The $16\frac{2}{3}$ -Year Cycle in English Wrought-Iron Prices*

*Cycles*, May 1955 and July 1967— “Wrought iron prices in England, 1288 to 1908, clearly evidence a cycle about  $16\frac{2}{3}$  years in length [see Figure 30]. The figures cover a long enough period of time so that the cycle has repeated 38 times during 642 years.

“. . . When a rhythmic cycle persists in spite of changed en-

vironmental conditions we have additional evidence that it is of a non-chance nature.

“. . . Note that this cycle has remained a constant characteristic of these figures from before the Industrial Revolution, through the Industrial Revolution, and up into the era of modern technology.

“. . . Except for a few abnormalities scattered here and there over the 642-year period, the conformation to the perfectly regular pattern is quite astonishing.”

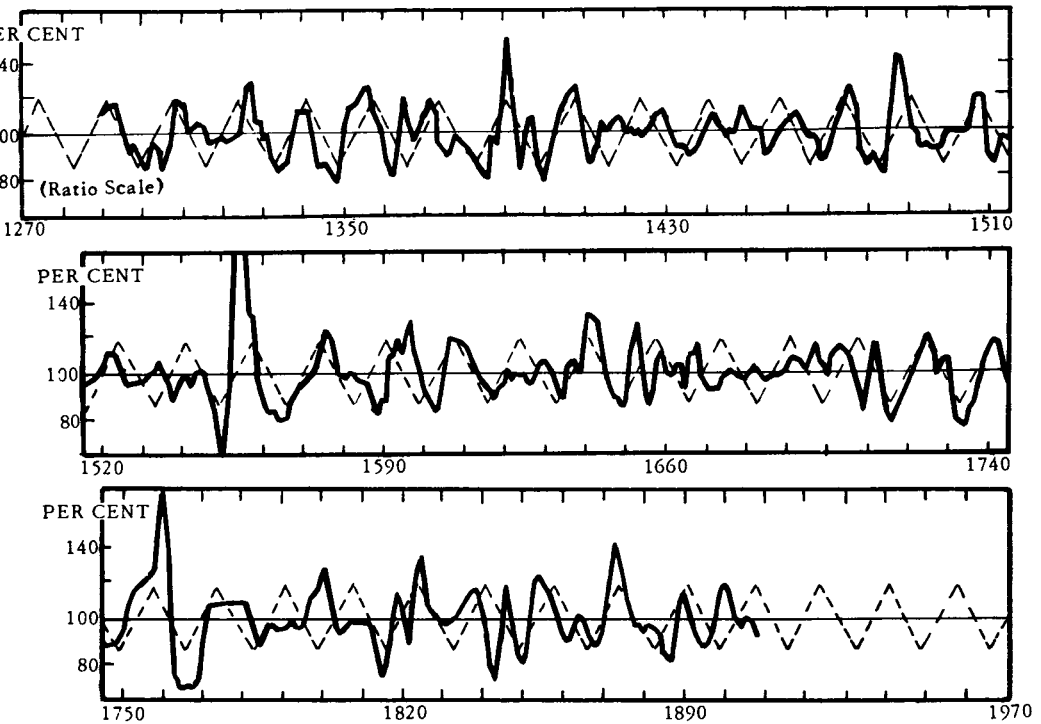


Fig. 30. The 16 2/3-Year Cycle in English Wrought-Iron Prices, 1288-1908

Study this chart carefully. You will note that although the cycle was distorted on more than one occasion the pattern always reasserted itself in step with previous behavior, an important clue that the cycle is much more likely to be nonchance or significant.

*The 17¾-Year Cycle in Pig-Iron Prices*

Cycles, April 1955— “Pig iron prices, 1784 to date, have been characterized by a rhythmic cycle about 17.7 years long [see Figure 31]. The span of time for which data are available (171 years) is enough for nine-and-a-half repetitions of the cycle.

“. . . Pig iron prices act as if they were influenced by a number of cyclic forces.”

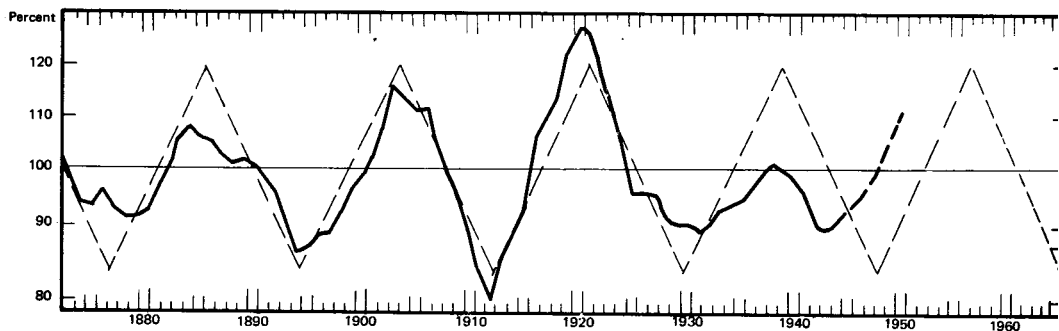


Fig. 31. The 17¾-Year Cycle in Pig-Iron Prices, 1872–1950

*Two Strange Facts of Life*

Why are there different cycle lengths in different things? Why, for example, does the price of cotton have a 17¾-year cycle while corn prices fluctuate in a 3½-year rhythm?

The answer is simple. No one knows!

For that matter, no one knows why strawberries respond to red light waves, plums to blue light waves, and bananas to yellow light waves. All three colors of light are equally available but strawberries, plums, and bananas are selective. So are wheat prices, cotton prices, corn prices, and all the other phenomena that respond to cyclic forces. Most stock prices, as you will discover in the next chapter, fluctuate independently of one another, just as the various organs in your body have distinct and different rhythms. For now we can only accept this difference in cycle lengths as a fact of life just as we accept the sunrise and the sunset.

But there is another fact of cycle life that is even more perplexing. *Nearly every phenomenon seems to have more than one cycle, as if it were being influenced by a number of different forces, all acting on it at the same time.*

As you have learned, corn prices have a  $3\frac{1}{2}$ -year cycle. But they also have a longer  $5\frac{1}{2}$ -year fluctuation that was discovered long ago by Samuel Benner.

Cotton prices, you have just read, have a  $17\frac{3}{4}$ -year cycle. But they also have longer price cycles of fifty-four years and thirty-seven years and they have shorter cycles of 12.8 years, eleven years, 8.5 years and six years. There are possibly others, and it is this complexity of rhythms, all going up and down with different beats, that causes all but the stoutest hearts to abandon the search for the cause of cycles and go off in pursuit of something less difficult, like the fountain of youth or the lost continent of Atlantis.

And yet this concept will be easy for you to grasp when we consider weather as a perfect example of something with many cycles. Let's take the amount of rainfall at Anyplace, U.S.A. If we analyze the record of rainfall in this mythical city over a period of many years we will discover many cycles. The first of these is the yearly cycle. Some months have less rainfall than others and there is a normally dry season and a normally wet season.

Next, consider that some years *as a whole* are drier than others. If the dry years and wet years alternate we would also have a two-year cycle.

Now, the records of rainfall at Anyplace might indicate that, on the average, every other decade was drier than the one in between. This would give us a twenty-year cycle. And some centuries might be, on the average, drier than others—a 200-year cycle.

In our hypothetical case your dry periods from the one-year, two-year, twenty-year, and 200-year cycles will all coincide from time to time. There would be a dry month in a drier than normal year in a drier than normal decade in a drier than normal century. The opposite could also happen with all the wetter than normal periods coinciding.

Then there would be various mixtures of the wet and dry cycles. They might, at times, cancel each other out. At other times they

might partially cancel each other out, and leave one or two cycles to dominate the scene. The situation would then become difficult to unravel with all the various cycles operating at the same time, reinforcing each other, canceling each other, and all mixed together in a seemingly unfathomable maze of ups and downs.

Yet this situation is not unfathomable. Once the different-length cycles have been discovered and isolated, it is neither difficult nor complicated to combine them, through simple arithmetic, into a synthesis—one line representing the sum of all their different fluctuations and project this line into the future. Let's look at a fairly simple example from *Cycles*, September 1958, dealing with the price of oats.

In an earlier analysis, covering the price of No. 3 white oats at Chicago from January 1923 through May 1958, we had discovered a cycle of 26.64 months. An ideal cycle of this length is plotted in Figure 32 as A.

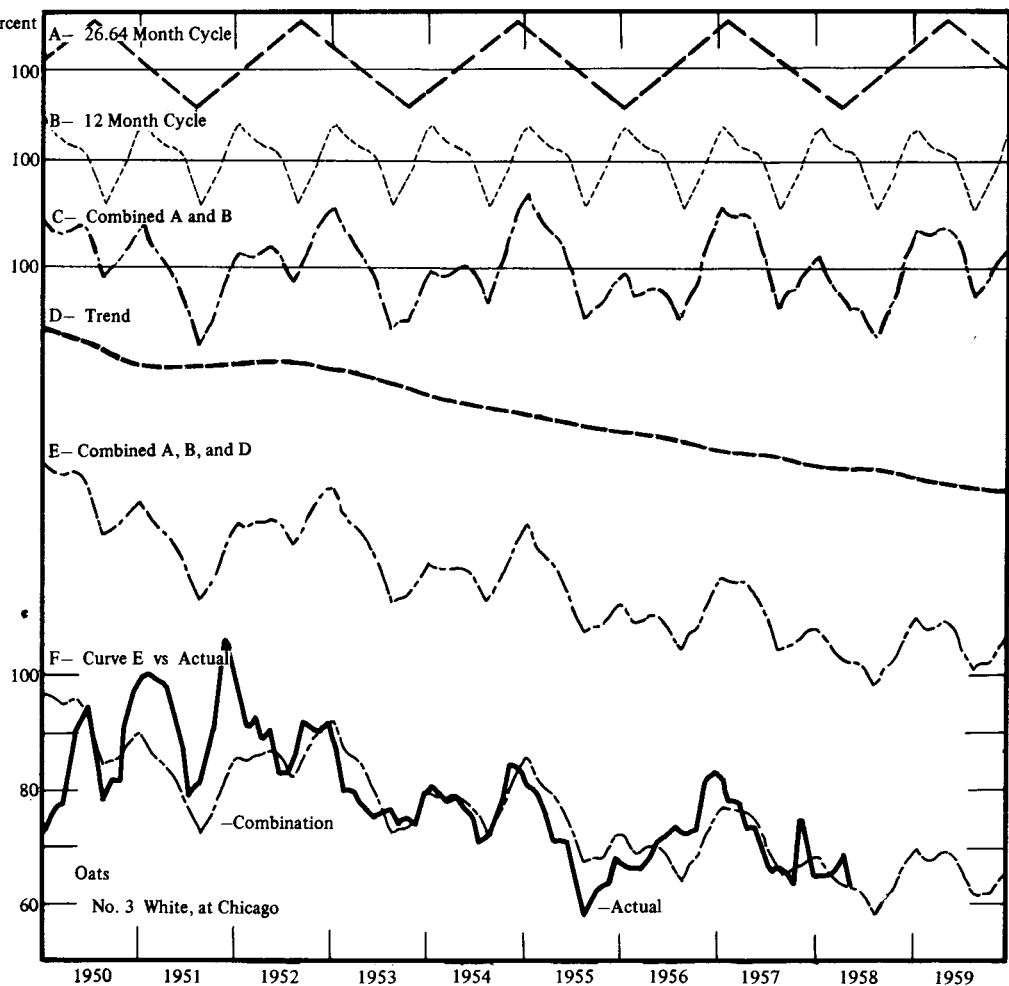
There is also a twelve-month seasonal cycle in oat prices. An ideal cycle of this length is plotted as B.

If we combine these two cycles, we have a curve (a line) that looks like C.

The general trend of oat prices during this period was downward, as you can see in D.

When we combine this downward trend with A and B, we have a line that looks like E. Line E is reproduced again at the very bottom of the graph, and a heavy line of the *actual price* of oats from 1950 through April 1958 is superimposed on it. As you can see, by using only two cycles and the price trend line we did not come too far from the actual results. The variation between the two could have been caused by other unknown and still undiscovered cycles or randoms in the series of figures.

Our dotted line (E) was also extended through 1959 as a *forecast*, assuming that the two cycles would continue and that the price of oats would continue in its downward trend. Of course, either of these conditions could change. The downward trend of oat prices might reverse itself, or our two cycles could be overcome by a stronger cycle of some other length, still unknown. There could be many still undiscovered cycles in the price of oats. The



**Fig. 32. The Price of Oats, 1950-1959**

Note how two cycles in the prices of oats are combined with the trend, and compare this combination (dotted line) with the actual price (heavy line) in the bottom portion of chart.

government could also intrude to tamper with oat prices. War might affect the price. Thus if you were interested in oats, you would stick closely to your graphs, constantly making adjustments as Samuel Benner might have done with his yearly supplements.

This particular graph somewhat reminds me of Edison's early incandescent light. Many improvements and refinements will be made as our knowledge increases—but it does shed some light, dim though it may be, in the darkness. You can use the information even in its present far from absolute state provided you treat it only as a *probability* of what is to come, not as an absolute certainty.

All of us make use of *probabilities* every day. The weather man says there is a 70 percent probability of showers, so we take our raincoat and umbrella. The probabilities are 8 to 5 that Notre Dame will defeat Michigan State, and so we wager on Notre Dame if we can get even money. The probabilities are that it will start getting cold in October, so we make certain that our furnace is checked and serviced in September. The probabilities are that next winter will be colder than last, so if you operate a natural gas company, you drill another well or two. The probabilities are that after 100,000 miles your car will begin giving you trouble, so you trade it in for a new one even though it is still running well.

Exactly the same sort of approach is required to make use of rhythm knowledge. This knowledge, incomplete as it still may be, can be invaluable when combined with business acumen and some common sense. The late General Charles Gates Dawes, former Vice President of the United States, former chairman of the board of the City National Bank and Trust Company of Chicago, and until his death a member of the board of directors of the Foundation for the Study of Cycles, once told me that he and his brother had made over a million dollars in the market solely as a result of his knowledge of cycles. He showed me brokerage statements that indicated more than this amount in clear profit.

Obviously he offered the best kind of proof that cycles can be a tremendously useful tool for the investor and businessman.