

Chapter 1

Why Trends Are Important

The facts of growth are common knowledge to most mothers, who are encouraged by doctors to keep a weight chart around the nursery, for reference at weighing time. All healthy babies, like other healthy young organisms, show large initial rates of growth — over 100 per cent for healthy babies the first year. As they get older, the rate of growth gradually falls off. At the approach of maturity, the rate of growth finally reaches zero.

Why it is that an organism stops growing we do not really know. We believe that biological organisms — whether dogs or babies or other animals — have their growth controlled by inhibiting secretions of glands. We are not so sure what it is that controls the size of different kinds of trees, or, say, of a Jimson weed.

But knowledge that such an inhibiting — factor does exist is important to us, even when we cannot explain it. We find it reasonable that such a factor should be at work in organisms like a baby or a tree, just because we are used to observing it in action. But it also works in other organisms, such as human institutions and business organizations.

Few executives are used to thinking of a business enterprise as an "organism." But it does have a growth that can be shown by a trend line. For the weight figures, which we might consult in establishing the trend for a baby, we can readily take the business output, as revealed in successive sales figures.

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Suppose we draw such a trend for a hypothetical business organization which shows average annual sales of \$20,000 during its first year of business, and proceeds as follows:

	<i>Annual</i>	<i>Five-Year Growth</i>
1905 Company founded	\$20,000	
1910 Five years after founding	\$38,000	\$18,000
1915 Ten years after founding	\$68,000	\$30,000
1920 Fifteen years after founding	\$116,000	\$48,000
1925 Twenty years after founding	\$186,000	\$70,000
1930 Twenty-five years after founding	\$279,000	\$93,000
1935 Thirty years after founding	\$391,000	\$112,000

Offhand this looks like a business that has been expanding rapidly, with a satisfactory forward thrust every five years. But if we analyze the figures, we find them showing signs of what, on the contrary, is a "dying" business. Years may pass before the business really goes under. But it has long been approaching maturity. What the figures show us is a steady decline in the rate of growth. The declining rate, by five-year periods, is as follows:

Rate of Growth

1905-1910, 90% of actual sales in 1905
1910-1915, 80% of actual sales in 1910
1915-1920, 70% of actual sales in 1915
1920-1925, 60% of actual sales in 1920
1925-1930, 50% of actual sales in 1925
1930-1935, 40% of actual sales in 1930
1935-1940, 30% of actual sales in 1935
1940-1945, 20% of actual sales in 1940

It is obvious from the table that during each five-year period the rate of growth of this hypothetical business has decreased 10 per cent and that, if these tendencies continue, the rate of growth in the future will be:

1945-1950, 10% of actual sales in 1945
1950-1955, 0% of actual sales in 1950

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In other words, we see that by 1955 the momentum will cease entirely. By then the organization will become another one of those many which follow a groove in a mature and conservative way — probably entering into a moderate decline until either aggressive competition shoves it aside entirely or "new blood" comes into the picture to give the aging institution a new start-off. A chart showing the sales for this hypothetical business would look like the solid line in Figure 1.1.

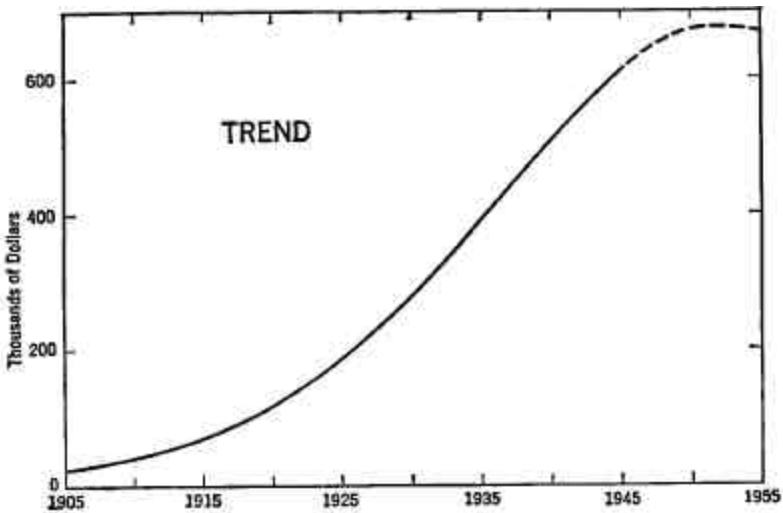


Figure 1.1 Trend of a hypothetical business organization

Data — 1905-1945, with a projection to 1955. The projection is based on the assumption of a continuation of the constant decline of the rate of growth, as discussed in the text. (For the same data plotted on ratio scale, see [Appendix 1, Figure 5](#).)

This line can easily be projected. We have assumed that sales in 1950 will be 10 per cent greater than 1945. The table shows that sales in 1945 were \$609,000. Adding 10 per cent gives \$669,900, projected sales for 1950.

Assuming that 1955 sales will show no growth over 1950 gives a sales total of \$669,900 for this year also. The projected figures are shown by a broken line. Projections of this sort, based on rate of growth pattern and showing the approach to what we may call "maturity," are important tools for all students of practical economics.

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In our hypothetical picture here, the design is that of a very regularly declining rate of growth — a regularity which is hardly typical of any of the institutions we shall study. But it is useful for illustrating a fact that both businessmen and investors usually overlook: The rate of growth of an organism is a sound index to its vitality.

It has become the custom in recent times, for instance, for investors to look well on organizations that have paid regular dividends over a long period of years without a gap. Such a record does bespeak sound conservative management. But it does not suffice, taken alone, to show that an organization has in it the vitality to continue successfully if dynamic new competition rises to face it.

In an era when entirely new sources of energy are being discovered, and when our industrial chemists are creating commercially new materials that never even existed before; when we enslave new breeds of living organisms and put them to work for us in vats; when any country with raw materials can make machines, and any nation with machines can make raw materials* — in such a day new forms of competition can arise rapidly. Therefore the trend line in established industries becomes a more important economic study than ever before. Just as the figures for any one business may be analyzed to reveal the trend, so may the figures for a group of businesses, such as those that comprise a manufacturing industry.

In the United States we have a number of great industries — often called basic industries which are fundamental to the support of our established pattern of living. The trends in these industries are of significance to all of our people, and not merely to the executives and workers and stockholders in those particular fields. Such trends do not have isolated meanings. They indicate plainly the state of given organs in the economic body we call the nation. If a similar trend shows up simultaneously in a number of the vital organs, we have conclusions that are in many ways applicable to our nation as a whole.

* See Virgil Jordan's *Manifesto for the Atomic Age* (Rutgers Press, 1946), p. 21 ff.

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As we shall see shortly, the trends existing in a number of our great industries show definitely that we have been reaching a period of basic "maturity" in our whole economic development. This is a fact of enormous implications that reach in many directions. The implications are so great, indeed, that many people (as usual with humanity) find it easier to deny the fact, in heated argument, than face it honestly and then proceed to deal with it. The argument has reached into the realm of politics — where the only justifiable debate should be concerned not with the reality of the fact, but with what to do about it has entered the life of the average man; it has entered the lives of business and social institutions; it is reflected alike in national defense problems and literary patterns.

Here the fact will concern us in just one fundamental way: its effect on business cycles — we shall later define the term more exactly — are not up and down departures from a horizontal line. It is more useful to think of cycles as waves moving around a curved axis, the axis being the trend line. If you like to think in terms of pictures, throw away the one of cycles seen as the jagged peaks of a level picket fence. Visualize instead the peaks of a fence going up and down a hill, or a coil-spring which is stretched over a bent poker as the core.)

A more or less typical trend line, around which a simple cycle is moving looks approximately like Figure 1.2. If this trend line represented the growth of your own business, and the cycle represented ups and downs for sales, one thing would be clear: you would not feel dips in the cycle nearly so seriously when you were growing rapidly as you would when the trend had leveled out. For when the trend is shooting up rapidly, the bottom of one cycle is a "depression" only by comparison with its own peak. The bottom may be actually at a higher level than the peak of activity in the preceding cycle.

This fact applies in to every single business, and it applies to a whole economy. In the years between the Civil War and World War 1, when the American economy was expanding at a very rapid rate, the bottom of one depression often represented a level of economic activity not much lower than the preceding peaks of prosperity.

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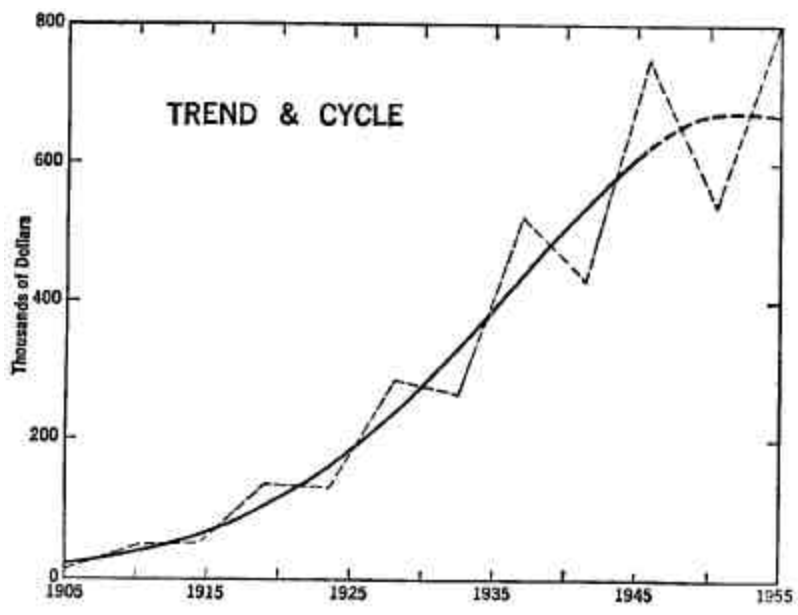


Figure 1.2. The trend and the cycle.

Trend of a hypothetical business organization as shown in Figure 1 with a regular 9-Year Cycle of 20 per cent amplitude superimposed. (For the same data plotted on ratio scale, see [Appendix I, Figure 6.](#))

Hence many a businessman of that extraordinary era knew just two kinds of "times when business was good, and other times when it was better. Business, even in depressions, was good; although it was under the level of recent peaks, it was still equal or possibly even superior in volume to levels established at other peaks in the fairly recent past. Figure 1.3, for instance, is a chart which shows roughly the ups and downs in our industrial production between 1884 and 1937, with a superimposed trend line. The chart has purposely been split into two parts.

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In the first part, up to about 1920, the trend was rising rapidly. In the second part, after 1920, the trend has pretty well leveled out. In the former, the eye can easily note that the depression lows a, b, and c were still practically as high as earlier peaks at A, B, and C. However bad business may have seemed at such lows, it was still at a level that had represented an all-time peak not too long before. Hence it still seemed pretty good.

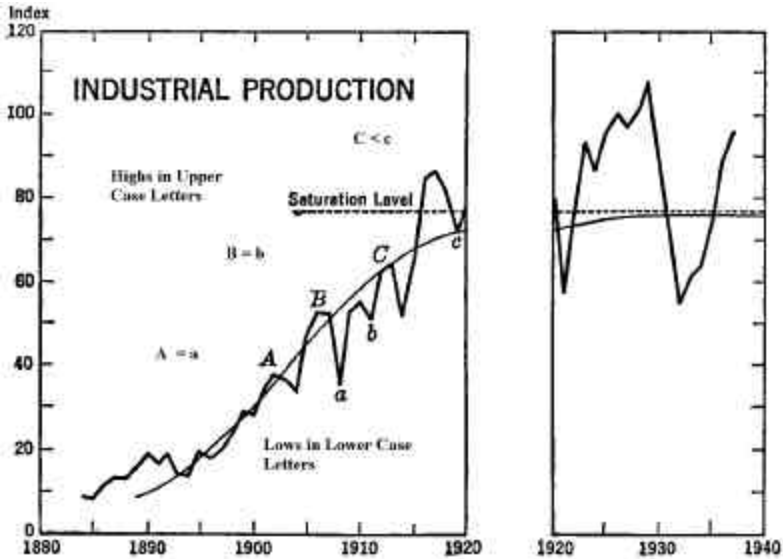


Figure 1.3 Growth of industries in the United States.

Data—1884-1937, together with Trend (after Davis). The chart has been split into two parts to emphasize the changing character of the trend. (For the same data plotted on ratio scale see [Appendix I Figure 7](#).)

But now note what happens following 1920, when the growth trend begins to level out. From that point on, depression points really mean something for the economy to experience. They are depression points not merely by comparison with recently experienced peaks. They are depressions that become absolute in character. There is no lift in the trend line to alleviate them. There are factors present in our economy to indicate that here

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after our major depressions will have this character. These factors suggest serious future problems for the nation and for the individual businessman. Without enjoying henceforth the advantages of a rapid rate of growth, we may find depression periods harder to bear. Also there is no ground for belief, as we shall note later, that a completely "managed" economy is more likely to avoid wide economic swings than is a free one, granting no difference in the rate of growth.

The businessman is going to have to anticipate depressions and plan for them wisely, or suffer unprecedented penalties. In the years when our economy was expanding rapidly, a businessman might make very faulty judgments and yet be saved from disaster, or even thrust into success, by the sheer momentum of the national growth. If he failed to sense the coming of a depression, or to time it accurately, why worry? Even the depression bottom was higher than the peak of a few years before. This situation is no longer true. It has not been true since 1918. A greater premium than ever before is imposed on the ability to time the turns in the business cycle correctly.

Many of our businessmen have looked on the depths that were reached in 1932-1933 as a development completely accidental, and one unlikely to recur. But one glance at the second part of figure 1.3 shows why the recurrence of a fall of magnitude seems probable if and when our economy slides into a depression again. This chart shows how the trend line in our economy has leveled out, so that no rising trend is present to compensate for a fall in the business cycle.

The phenomenon of increasing intensity of depression — as an economy approaches the upper level, or asymptote, of its trend — is shown suggestively in the history of the Spanish Empire, one of the earliest social organisms for which we have any useful statistical record. E. J. Hamilton, in his study *American Treasure and the Price Revolution in Spain*, has provided us with elaborately detailed estimates of Spain's total imports, valued in standard pesos,

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from 1503 to 1660. On the basis of this data, Harold T. Davis has constructed an index of Spanish trade for this period which is charted in Figure 4, together with a trend line which has been added by the authors. The period includes most of the great growth and expansion of the Spanish Empire. Of particular interest is the series of deep depressions that begin to appear after the trend line begins to reach maturity.



Figure 1.4. Index of Spanish trade.

Data 1530-1650 (after Davis and Hamilton) together with Trend. (For the same data plotted on ratio scale, see [Appendix I, Figure 8.](#))

In very recent years we have discovered a great deal of new information on this subject, and a new application of scientific methods in its use. But before we reach the problem of the cycle we must know more about trends, and how they are determined and estimated.

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