CHAPTER EIGHT

FLUCTUATIONS IN INDIVIDUAL MARKETS

IN THE preceding chapters we have dealt only with fluctuations of very general economic series, such as total production, production of all consumption goods, general price level, general wage level, etc. We shall now devote some attention to the pattern of fluctuations in individual markets. We use the broad term "movements [or: fluctuations] in a market" to refer at the same time to prices and quantities. Normally, the fluctuations of prices and of quantities sold in the same market are closely related. In cases where there is no such relation between the movements of prices and quantities sold in the same market, we shall have to specify to which of the two we want to refer when speaking of the fluctuations in a market.

Fluctuations in a particular market can show divergencies from the general business cycle in two respects. In the first place, there may be a difference in the proportion of the various components (trend, cycle, etc.) compared to those of the general series. In the second place, the components may show a different development from those of the general series. We shall discuss in this chapter a number of examples of such divergent movements, the most important of which refer to the cyclical component. Certain markets have a special cycle of their own, with a period different from that of the general business cycle. This phenomenon has induced Professors Warren and Pearson to believe that the general cyclical movement might be understood as the sum of such different cyclical movements in individual markets. Warren and Pearson[1] show that the addition of a number of purely periodic curves of different periods will

1. G. F. Warren and F. A. Pearson, *World Prices and the Building Industry* (New York: John Wiley & Sons, Inc., 1937).

yield new curves that are again periodic but much less regular than the original curves, a proposition well known from mathematics. In our view, their proposition is of no great value in the explanation of the general business cycle. It is, of course, true that all general business-cycle series are either sums or averages of corresponding series of individual markets. But for the theory of Warren and Pearson to be of any value as an explanation of business cycles, it would be necessary that each market had a life of its own, that is to say, that it could fluctuate entirely under the impetus of data which are independent of other markets. There are in fact only a few markets that have such an independent character. We shall refer to them later. Most markets, however, strongly influence one another, and the fluctuations in each of them depend to a large extent on the same data. Most individual markets are very strongly under the influence of the general business cycle. For this and other reasons, the fluctuations in these markets are by no means more elementary in character than those of the general business cycle. A reduction of the latter to the movements in individual markets is therefore no real explanation, no reduction to simpler concepts.

We may start out with some examples of the first type of divergency mentioned, in which individual markets have an entirely different proportion of the various components from that of the corresponding general series. The most striking examples of this are cases in which one component dominates the three others. There are markets, for instance, in which the trend movement is entirely dominant. This is particularly the case for the markets of new commodities. The production of rayon, for instance, shows an almost uninterrupted tendency to increase, its price an almost uninterrupted tendency to decline. The business-cycle position has little effect on either. Of course, it is not likely that this will continue. When a new product has obtained its place in the economy, its trend component will automatically become less pronounced and, by the same token, its business-cycle component will become more pronounced, both as to the volume of output and as to price. Also, very little cyclical effect is to be observed in the production of the most essential foodstuffs and in such series as the number and the nominal value of all bonds and shares. The price of foodstuffs and the quotations of bonds showed only very small cyclical fluctuations before 1914, but their fluctuations have increased since World War I. Share prices, on the other hand, have at all times been very responsive to the general business cycle.

In some markets the cyclical component, that is to say, the general cyclical component, dominates. This will be the case particularly where the trend is of relatively minor importance.

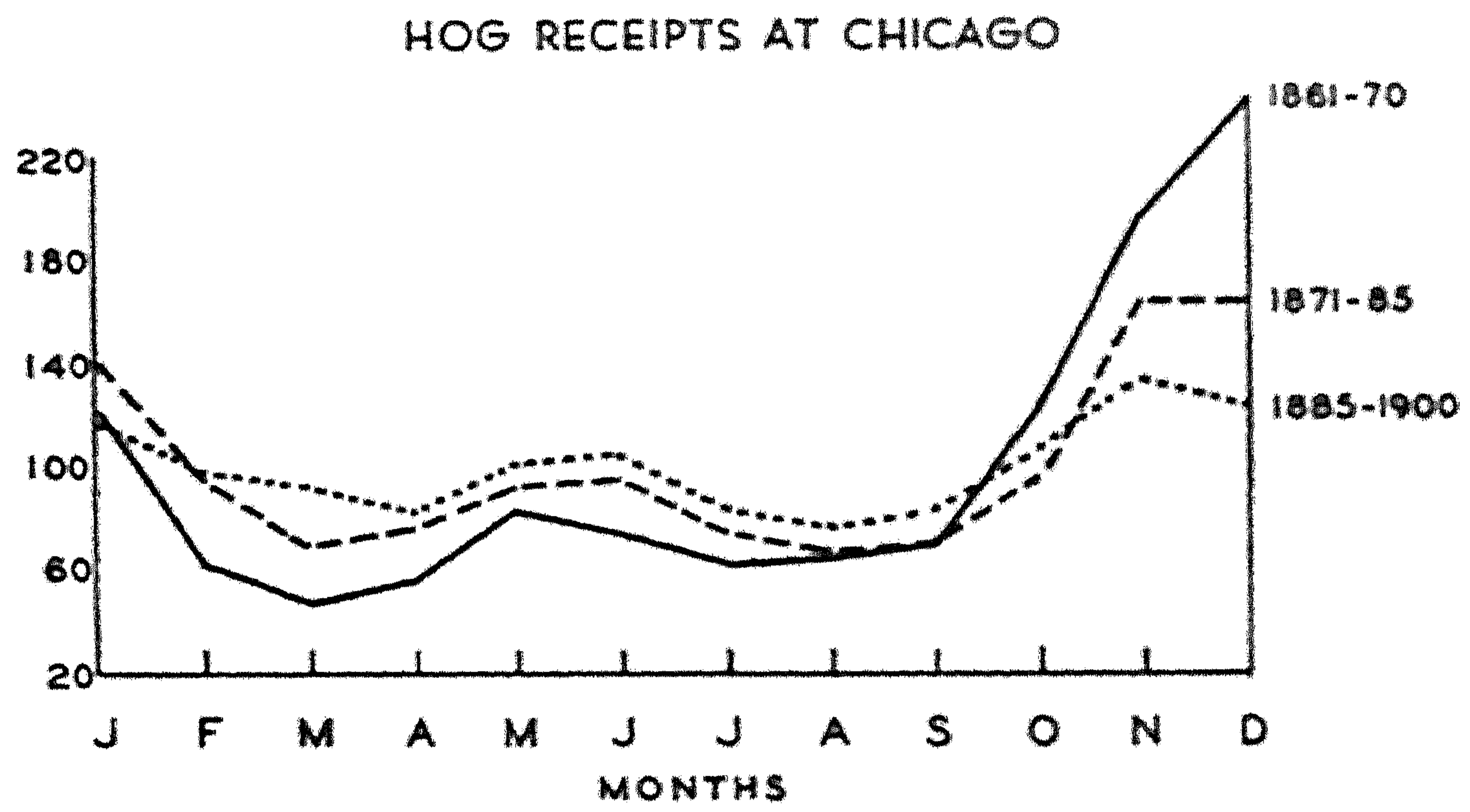

FIG. 34.—Seasonal component in hog receipts in Chicago, 1861–70, 1871–85, and 1885–1900 (source as in Fig. 29).

An example of this is found in the markets of older mineral raw materials and also in the market for short-term credits.

Markets with a predominant seasonal component are those of perishable agricultural products, such as vegetables, some fruits, and, to a lesser extent, dairy products and eggs. The further extension of preservation techniques (canning, drying, deep-freezing) has a continuing tendency to reduce the importance of this type of market. A clear example of the gradual reduction of the seasonal component in an agricultural series is shown by the figures of hog receipts in Chicago up to 1900 (see Fig. 34).

As we have mentioned, the markets in which the random components dominate are those of agricultural products.

We shall now deal with the second type of divergency, in which the components of the movements in individual markets show a character of their own. With respect to the trend and the random component, this is not possible. In a sense all trend movements are of the same character. They are monotonic movements, and the only difference that can be observed is one of direction, positive or negative. A difference in slope may be considered as a difference in intensity and would therefore be of the nature of the differences discussed in the preceding paragraphs. A difference in direction may in fact also be considered as a difference in intensity. Thus the products which are gradually disappearing from the market because of the competition of new products show a trend of direction opposite to that of production in general. The construction of sailing ships, for instance, shows a declining trend since 1870. The same negative trend will be found for minerals, deposits of which become gradually exhausted. The production of copper in England, for example, has been steadily declining since 1892.

A finer distinction may, however, be made in the shape of the trend curve. One may distinguish between trends which, over a period of a number of decades, show clearly the form of a growth curve and trends which cannot be distinguished from a straight line or an exponential curve. If this distinction is made, it will be found that the growth curve is the trend for a large number of individual markets, whereas for the more general series a straight line or an exponential curve is the appropriate trend. The trend of these general series represents the sum of the growth curves shows a much more regular pattern than each of point of most rapid increase at a different time. The sum of the growth curves shows a much more regular pattern than each of the component curves, as one after the other of the growth curves passes through its period of maximum rate of increase.

Random movements too, it may be said, are all of the same character. A distinction might be made according to their natural time unit. We have seen that this time unit is different for crop figures from that of most other types of random components.

Relatively little needs to be said in this connection concerning the seasonal components, for their most important characteristic is their common period, the year. An infinite variety of seasonal patterns and seasonal intensity may be distinguished. Examples were given in chapter v. Of importance in this connection is the possibility of seasonal compensation, that is to say, the heavy season in one market may coincide with a quiet season in another market. As a consequence of such compensation, seasonal fluctuations in general activity are considerably less pronounced than those in individual branches of industry; the same applies with respect to prices. Individual enterprises often follow the policy of compensating the seasonal fluctua-

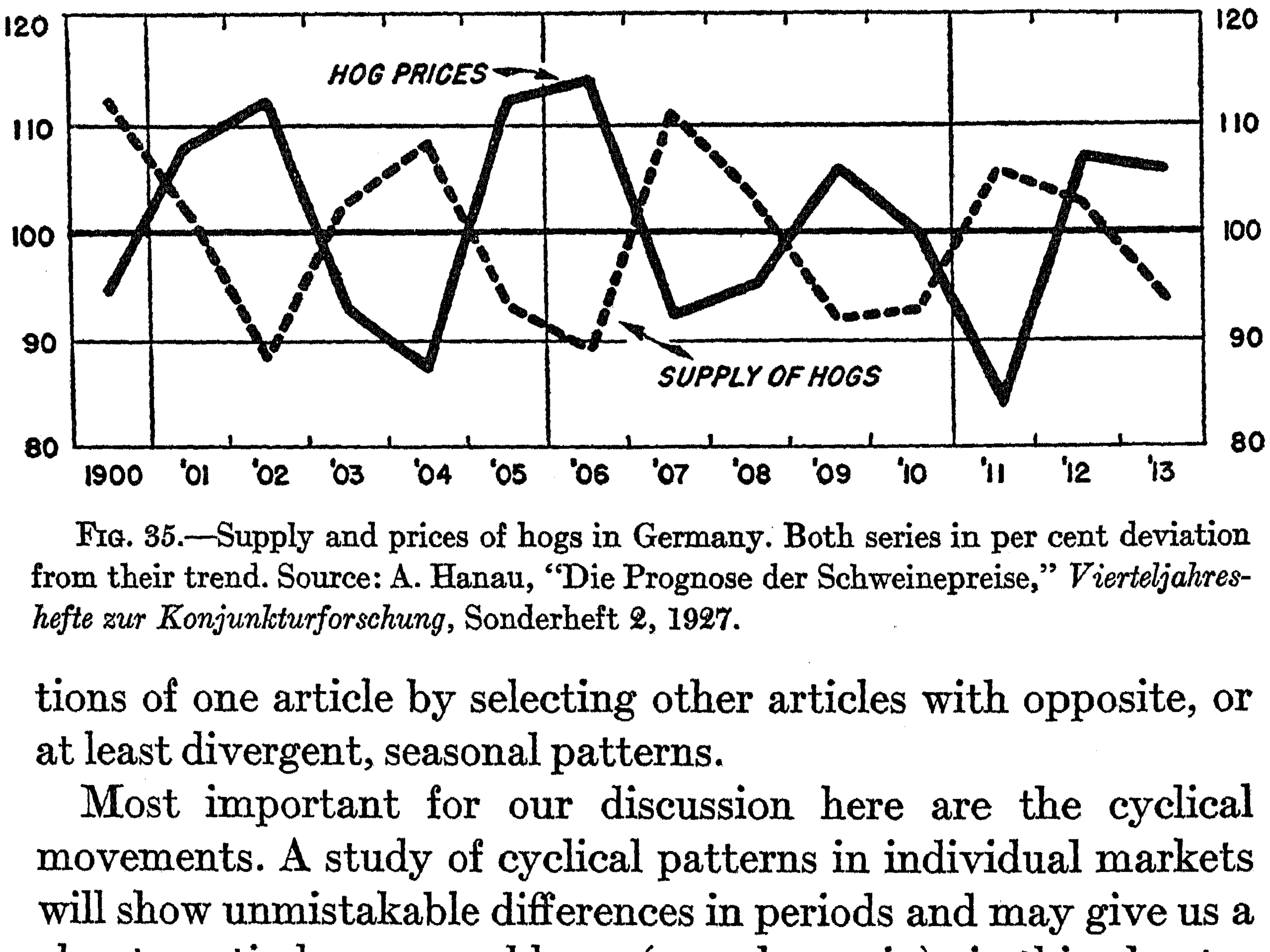

FIG. 35.—Supply and prices of hogs in Germany. Both series in per cent deviation from their trend. Source: A. Hanau, "Die Prognose der Schweinepreise," *Vierteljahreshefte zur Konjunkturforschung*, Sonderheft 2, 1927.

tions of one article by selecting other articles with opposite, or at least divergent, seasonal patterns.

Most important for our discussion here are the cyclical movements. A study of cyclical patterns in individual markets will show unmistakable differences in periods and may give us a clue to entirely new problems (see chap. xiv); in this chapter only a brief description of cycles in various individual markets is presented.

HOG CYCLE

The tendency toward individual cycles is most pronounced in certain branches of livestock production. The well-known hog cycle is one example. Both prices and quantities sold in the hog market have a very clear period of from three to four years, observed for many countries and over long periods (see Fig. 35).

The maxima and minima of these series sometimes coincide with the general business cycle; sometimes they do not. The maxima in the quantities coincide with the minima in the prices and vice versa. In this respect, the hog cycle is entirely different from the general business cycle, where quantities and prices tend to fluctuate jointly.

OTHER AGRICULTURAL CYCLES

Similar cycles have been observed also in the cattle market, though less regular and apparently much more disturbed by fluctuations in other markets. The period found for the Netherlands cattle market is entirely different from that for the American cattle market. In the Netherlands the period observed was approximately five years, whereas in the United States it was seventeen years.

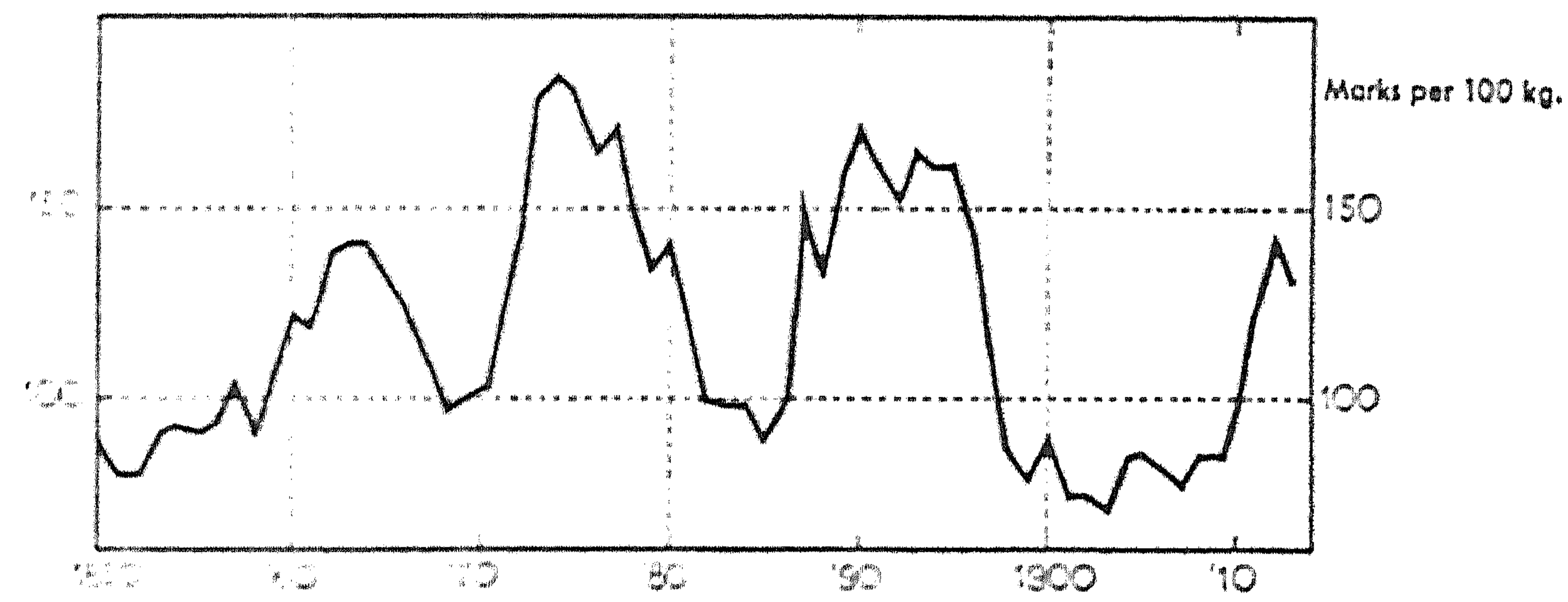

FIG. 36.—Cycles in coffee prices. Source: *Nederlandsche Conjunctuur*, June, 1930, p. 26

A number of markets of vegetable products also show cycles of their own. The clearest example of this is the coffee market (Fig. 36). The period of this cycle is approximately sixteen years. In this market an opposite movement of prices and quantities may be observed.

A different type of cycle, which can be observed for almost all agricultural products but which is much less regular, is the two-year cycle. An example of it for cotton is shown in Figure 37. As we shall show later, there is some room for doubt whether this is a true cycle.

BUILDING CYCLES

Figure 38 shows the individual cycle of residential construction in the United States. This cycle, again, has a period of approximately sixteen years. The statistical material for a study of this market is rather incomplete. Of the relevant series, only that of construction is known over a considerable period, and even the material for this series is quite defective for a good

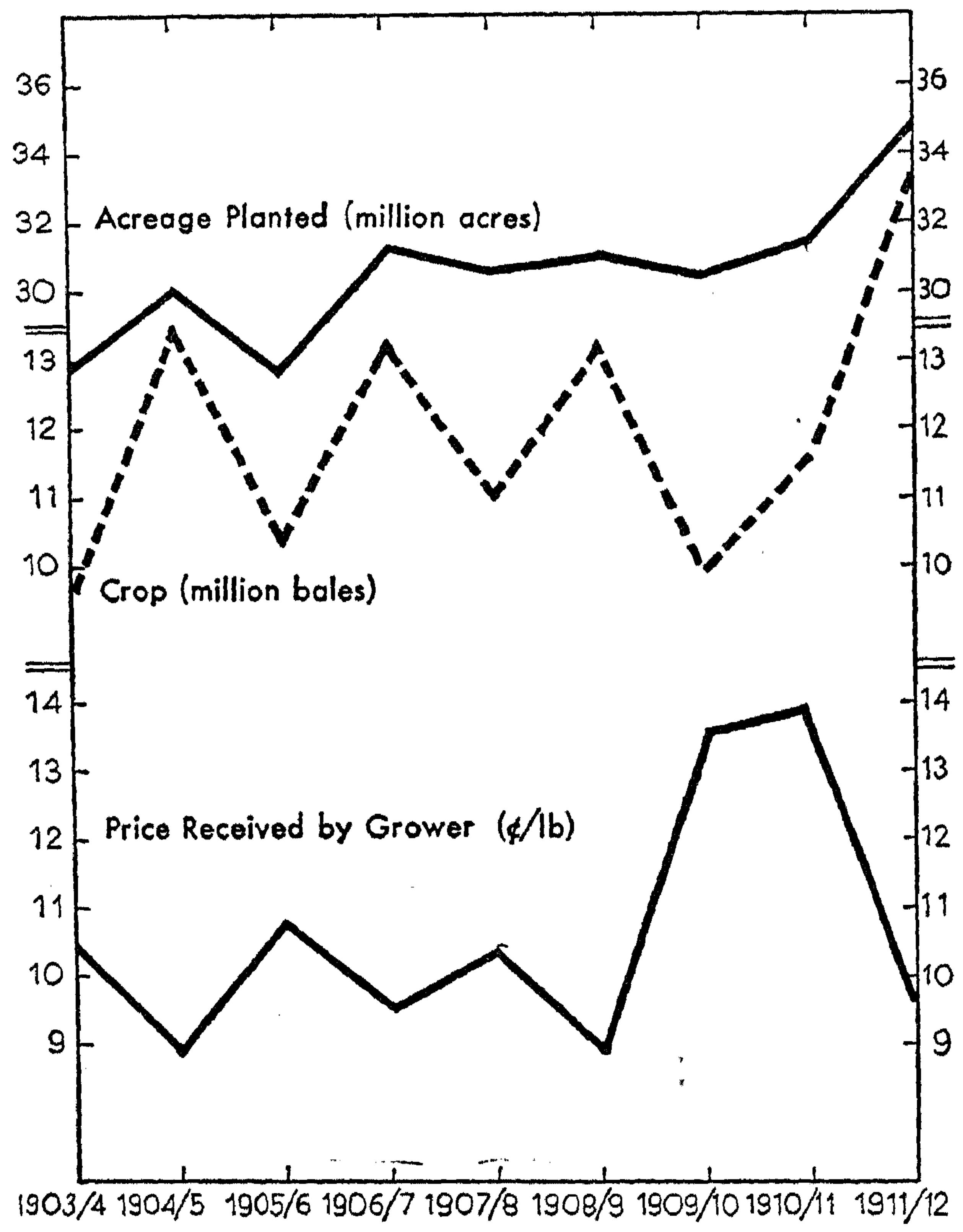

FIG. 37.—Example of the two-year cycle in agriculture: cotton in the United States.

part of the period. The series of rents, which would be of great importance in this connection, is known only for a much shorter period: really representative figures are available only recently, while figures for earlier years are available only for one or two towns. A third series of great importance in connection with this market, on which, unfortunately, only very inadequate information is available, is that of the total stock of houses. As houses are durable commodities, the total supply of dwelling services available for sale has but little connection with current building activity; this in contrast to the supply of non-durable commodities. Almost nothing is known of a fourth series that would be of importance, namely, the selling price of houses.

Whatever little statistical material is available would lead to the conclusion that, in the market of dwelling services, prices, i.e., rents, do not show a pattern precisely opposite to that of the quantity of production or the quantity of the total supply available. Closer analysis shows, further, that, although there is a clearly recognizable cycle, there are many disturbances, as might indeed have been expected theoretically.

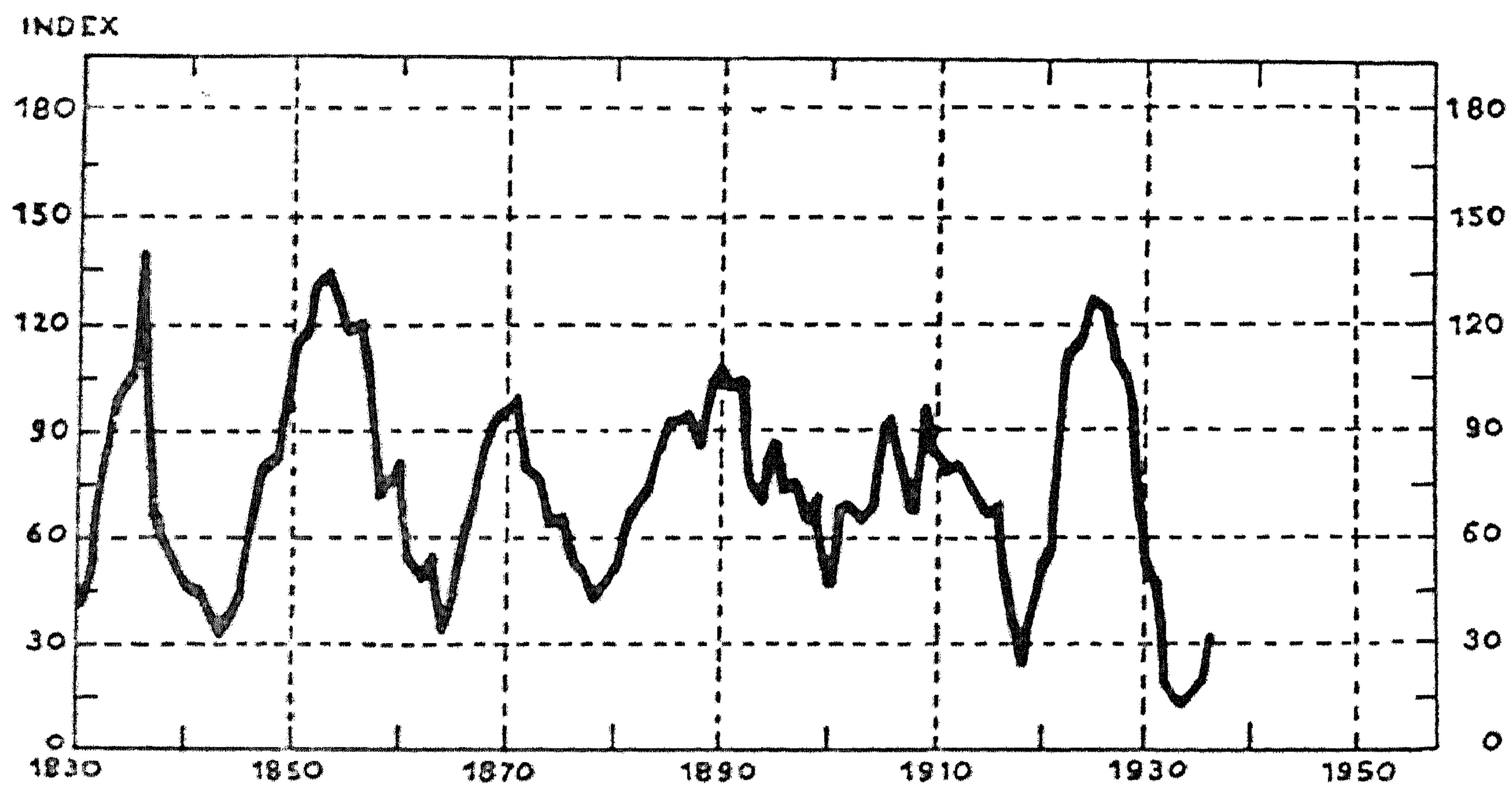

FIG. 38.—Long cycles in residential construction in the United States. Source: G. F. Warren and F. A. Pearson, *World Prices and the Building Industry* (New York, 1937).

Evidence of the existence of a cycle in residential building is limited almost exclusively to the United States. In other countries, too, there is great difficulty in obtaining in suitable form data concerning residential construction for earlier decades. Only a few series are available for long periods, in particular for a number of large cities (Amsterdam, Hamburg, London, Glasgow). Apparently, some traces of a long building cycle could be observed in the nineteenth century; toward the end of that century and in the twentieth century, moreover, other tendencies connected with the general industrial cycle dominated the housing market. As mentioned before, however, the relation between the general cycle and the building cycle is quite complicated; residential construction i strongly affected also by abrupt changes in confidence.

It is possible that tendencies toward an individual cycl exist also in shipbuilding.

Finally, a few tendencies toward a cyclical movement may b observed in markets with a speculative character. As a firs example we may mention the import of raw materials. Com- parison of import figures with the corresponding figures o consumption of raw materials will show a difference of a

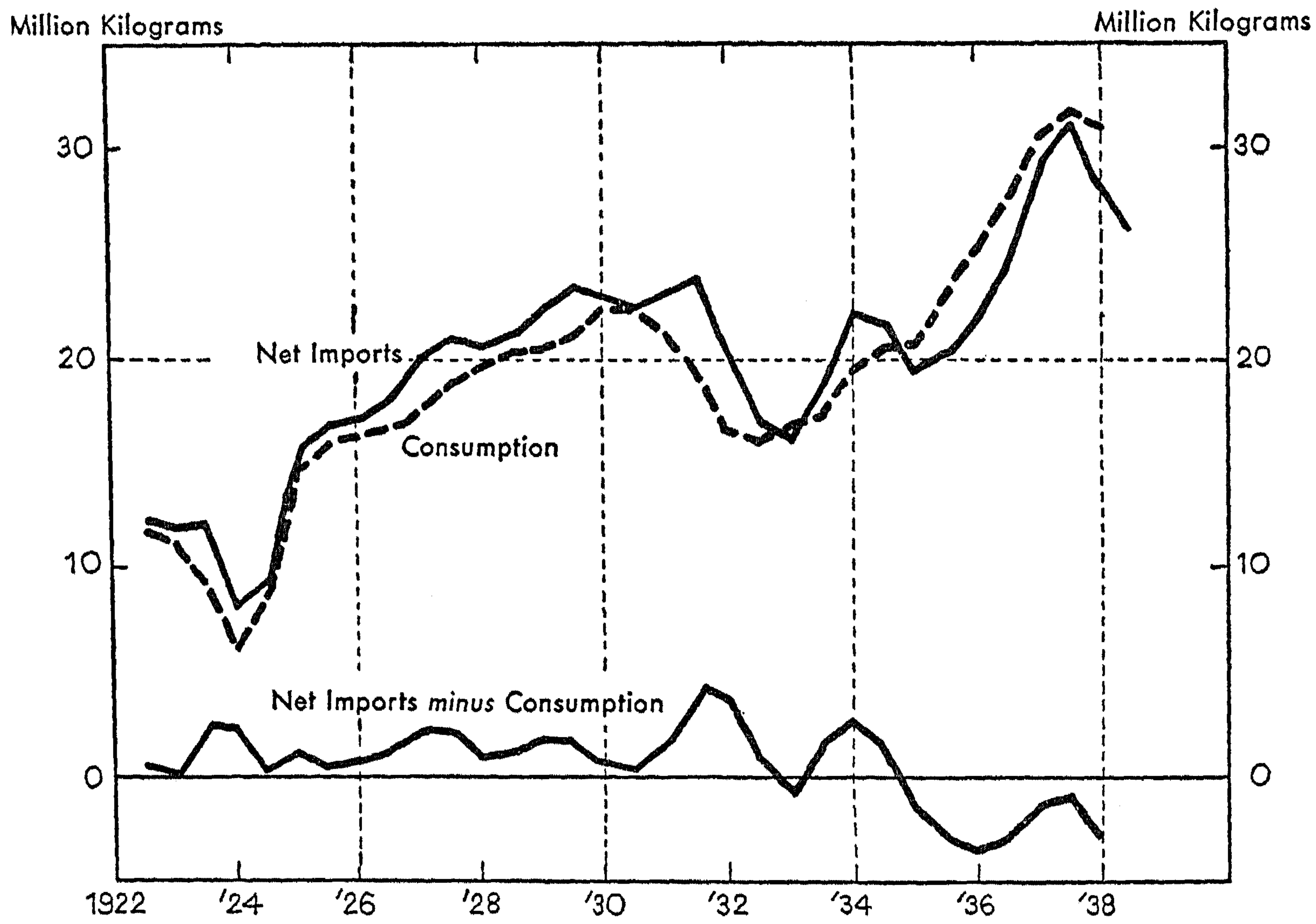

FIG. 39.—Consumption and import of raw cotton in the Netherlands. The difference between the two series, at the bottom of the diagram, shows a tendency toward a two-year cycle.

cyclical nature; the imports, which in the long run must be approximately equal to consumption, show sometimes excesses, sometimes deficiencies, compared to consumption (Fig. 39). There may be an indication here of a separate cyclical movement. However this may be, the cycle is in any case strongly disturbed by other factors. A second example is provided by the fluctuations in the share market, to which we shall refer in greater detail below.[2]

2. Cf. chap. xiii, *infra*.