Seasonal Movements in Production and Trade

National Bureau begins computation of indices to measure seasonal variations in supply of raw materials and finished goods.

They have been arranged so as to show seasonal movements in the flow and stocks of goods, beginning with raw materials and ending with the passing of the finished commodity into the hands of ultimate consumers.

The periods for which the indices have been computed commence with March, and the report varies from five to ten, seven being the most common.

What the Chart Shows

In the accompanying chart, on page 3, the main feature is the amplitude of the cycles. Marketing of raw or semi-manufactured goods shows large fluctuations determined by the cotton harvest. Marketing of intermediate goods shows a more regular movement than the year's average during the first eight months, followed by a rise thereafter. There are, however, two significant differences. Stocks continue to be high up to January and decline only in the latter month, while marketing declines in November. The second and more important difference is in amplitude. The low in stocks is 49% of the year's available, compared with 99% of the annual average, as against 24% for cotton marketing.

Stocks of raw cotton in public warehouses follow the movements of cotton marketing. They show the same decline throughout the seven months of January and a rise thereafter. There are, however, two significant differences. Stocks continue to be high up to January and decline only in the latter month, while marketing declines in November. The second and more important difference is in amplitude. The low in stocks is 49% of the year's available, compared with 99% of the annual average, as against 24% for cotton marketing.

Stocks of raw cotton at textile mills again show a seasonal movement similar to that in marketing, and begin high throughout the year until the last quarter of the calendar year and begin to decline only in the latter month, while marketing declines in November. The amplitude of the seasonal swing is 30% of the year's available, compared to 35% in the flow of raw cotton and the total swing is 56% as against 98% for stocks at warehouses.

Spring and Fall Peaks

The seasonal movement in consumption of raw cotton shows two peaks, one in spring and another in fall, whereas raw cotton and cotton manufactures show a single peak. The amplitude of the seasonal swing in consumption of raw cotton is relatively small. The year's low is only 47% of the year's average, the fall high 120%. Here the swing is only half that of the year's average. The year's high is only 75% of the year's average, the spring low 50%.

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raw material. Thus, none of the indices for finished cotton goods, knit underwear, and work clothing, all of which have been plotted together, show large swings and all exhibit the two peaks, the one in spring, the other in fall. The seasonal movement in these two groups of commodities is, respectively, 85%, 25% and 35% of the year's average.

When stocks of finished commodities in the hands of manufacturers are reached, it is found that the seasonal movement almost disappears. The seasonal range of stocks of finished cotton goods (dyed, bleached and printed) in the hands of converters is only 6% of the year's average. For the stocks of work clothing in effect is 11%.

Shipment of finished cotton goods, knit underwear, and work clothing show seasonal swings similar to those in production. In knit underwear the fall peak in shipments is materially higher than the fall peak in production, while in finished cotton goods the reverse is true. There is a more significant difference in amplitude. The seasonal swing for the three shipment series is respectively, 26%, 31%, and 40% of the year's average. With the exception of finished cotton goods, the series show a higher seasonal amplitude in shipments than in production.

Stocks Low in Midsummer

There are no continuous series available representing stocks in the hands of wholesalers, but the seasonal index can be computed from the monthly and year-to-year changes as given in the Bulletins of the Federal Reserve Board. The districts, the computed indices are shown in the chart. The similarity of these indices provides a partial proof of their reliability.

It is to be noted that these indices exhibit seasonal movement that suggests preparedness for wholesale sales. The low in stocks is in midsummer and there are one or two upturns, a smaller one in spring and a much higher one in fall. If these stocks are compared with sales it is found that there is a correspondence to the two uneven peaks in wholesale sales, the smaller one in spring, the larger one in fall. In the matter of monthly dating there is a tendency for stocks to precede sales by one month. This is particularly true of the index for the Philadelphia Federal Reserve District.

The seasonal swing in wholesaler's stocks is 27% to 28% of the year's average. The swing in wholesaler's sales is 46%. Thus, wholesalers, and not manufacturers, bear the burden of carrying stocks of finished commodities for the seasonal trade.

Analysis of Retail Sales

Retail sales by specialty departments of department stores are available continuously for the Boston Federal Reserve district. Two groups of commodities have been chosen, distinguished by a considerable difference in their seasonal patterns. Cotton dress goods are essentially summer goods and are not affected by the holiday trade. Knit underwear has two peak seasons, one in June and a much higher one during the holiday shopping in December. The interesting thing is that in both groups the seasonal movement is large. The seasonal swing in sales of cotton dress goods is 30% of the year's average, in knit underwear, 17%. Both swings are greater than any other noted since the consideration of the marketing of raw cotton by farmers.

Employment Movement Slight

Employment, in the manufacture of cotton goods, as reflected in the number of employees on the payroll of mills engaged in manufacturing, shows a slight seasonal movement. The average August is 85% of the year's average, the high in March and May is 104% each, so that the total swing is only 11%.