

The industry is currently digesting an impressive round of new plant expansion but there is a feeling prevalent that the future holds more difficult times. It would be a mistake to leave the impression that the petrochemical industry has no problems and profit is assured for anyone who engages in it. Despite the fact of rapid growth, profits in the industry, on the average, have been low. With the greater complexity and, hence, higher costs of the processes required for producing these upgraded materials, it obviously has become all the more imperative for manufacturers to aim at large-volume production to achieve economies of scale. In some fields the demands of the Canadian market are not yet large enough to justify plants of economic size or to ensure optimum use of available capacity. Faced with continually sharpening competition in home and export markets from highly efficient producers not only in the United States but also in more and more countries in Europe and elsewhere, most petrochemical firms in Canada must be content with modest profit margins in order to lower their prices to competitive levels.

In the future, the refiner may move forward toward chemicals and the chemical manufacturer backward to improve his competitive raw material position. It is likely, though, that in general the refining industry will remain 'raw material' oriented and the chemical industry will remain 'product' oriented. One solution to the lack of sufficient market to justify large, economic-sized plants may lie in research efforts devoted to reversing the current trend to bigger facilities and which might result in the design of plants that can operate profitably at throughputs tailored to the Canadian market. Greater flexibility of product from a given plant offers another possibility by enabling the same facilities to be shared for the production of different chemicals, thus reducing the unit overhead costs.

The future holds great promise for the Canadian petrochemical industry but in order to maintain the past rate of growth, producers will be faced with the need to develop superior techniques and the industry will require an increasing technical capacity to achieve advantages in the manufacture of selected products.

PART II.—STATISTICS OF MANUFACTURING

Section 1.—Growth of Manufacturing

It is impossible to give absolutely comparable statistics of manufacturing over a long period of years. From 1870 to 1915 statistics were collected only in connection with decennial or quinquennial censuses and there was inevitably some variation in the information collected. The annual Census of Manufactures was instituted in 1917 and, though numerous changes have since been made in the information collected and in the treatment of the data, an effort has been made to carry all major revisions back to 1917, so that the figures for the period since then are on a reasonably comparable basis.

The Bureau of Statistics in 1952 changed its policy with regard to the collection of statistics on the production of manufactured goods. Firms in several industries where year-end inventory changes were known to be insignificant were requested to report value of shipments f.o.b. plant instead of gross value of products. Under the "value of products" concept, establishments were asked to report the factory selling value of the products made whether sold or not, the unsold portion being assigned the average selling value of similar articles sold during the year. Under the "selling value of shipments" concept, establishments are required to report their sales during the year regardless of when the products were made, an item usually readily available from the firms' records. The changeover was made in order to ease the burden of reporting for the majority of manufacturing establishments. The value of shipments concept for small and medium sized establishments is more realistic and more readily obtainable from their accounting records, whereas the value of products made, for firms not recording such information, must be derived from special calculations.