Royal Commission

on Canada's Economic Prospects

Industrial Concentration

by *The Canadian Bank of Commerce*

ROYAL COMMISSION ON CANADA'S ECONOMIC PROSPECTS

INDUSTRIAL CONCENTRATION

A Study of Industrial Patterns in the United States, the United Kingdom and Canada

by

THE CANADIAN BANK OF COMMERCE

JUNE, 1956

While authorizing the publication of this study, which has been prepared at their request, the Commissioners do not necessarily accept responsibility for all the statements or opinions that may be found in it.

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THE CANADIAN BANK OF COMMERCE

HEAD OFFICE

TORONTO 1, CANADA

JAMES STEWART
PRESIDENT

9th January 1956

Mr. Walter Gordon

Chairman

Royal Commission on Canada's Economic Prospects

Ottawa, Ont.

Dear Mr. Gordon:

I take pleasure in submitting to you and to your fellow Commissioners a study entitled: INDUSTRIAL CONCENTRATION — *An Examination of Industrial Patterns in the United States, the United Kingdom and Canada.*

In your letter to me of July 18, 1955, it was suggested that "a study be made of the trend in the past towards concentration in industry in the United States, the United Kingdom and Canada and some assessment of the probabilities that such trends may be continued". You further noted that "it would be useful to know the influences which may have led to mergers in the past and which may be expected to have some force in the future".

In view of the time limits outlined in your letter it was not possible to deal in exhaustive detail with the economic implications suggested by the terms of reference. In fact, the scope of the study was such as to preclude detailed examination of original source material, and it was necessary to rely on existing studies and research in progress.

A significant fact that came to light with respect to the Canadian aspect of the study was the lack of detailed examination of the Canadian industrial structure, and this suggests an important and useful field for future research.

I would take this opportunity of recording my appreciation of the work done by W. F. Lougheed, Consulting Economist to the Bank, and his associates in the preparation of this submission.

Sincerely

J. STEWART

1

THE NATURE OF THE SUBMISSION

This is an attempt to provide information on industrial concentration, a subject on which the information is scanty and uneven.

Within the time limits imposed it will not be possible to prepare basic statistical data or even to "process" existing data. It will be necessary to rely, in the main, on studies in existence. In Great Britain a study on the structure of British industry by Leak and Maizels was published in the papers of the Royal Statistical Society in 1945. This study was based on the 1935 Census of Production data.

Since 1945 Census of Production material has been published for 1948 through to 1951, but the material is still being published and, unfortunately, it varies in detail and the categories do not correspond to those used by Leak and Maizels. For example, there is an analysis of establishments by size as measured by the number employed; but there are no indications of degree of integration among establishments; moreover the series is incomplete.

Work is now in progress on the compilation of an expanded work on the Leak and Maizels pattern by the Institute of Economic and Social Research, London but, according to reliable reports, it will not be ready for publication before 1957 or 1958.

On Canada, the census of industry provides only partial assistance in dealing with the question of concentration. A publication by G. Rosenbluth entitled *Concentration in Canadian Manufacturing Industries* now on press will fill part of the gap in the Canadian literature. As one of our colleagues expressed it: "The situation with respect to Canada is deplorable in view of the fact that we have one of the best statistical systems in the world. There is much data both in the Dominion Bureau of Statistics and the Department of National Revenue which, with very little additional processing, could be rendered useful for the study of concentration.

"The little information that has been made available is due to the scattered efforts of *individual* researchers and to the sincere efforts of the statistical agencies to accommodate *individual* requests. However, those requesting information have not been sufficiently numerous or important to justify any substantial expenditures."

In the United States there has been a great deal of interest in the question of concentration since the turn of the century. This interest perhaps reached a peak in a study of the concentration of economic power carried out by the Temporary National Economic Committee which published over 40 monographs dealing with various aspects of economic power and which conducted continuous hearings over a period of two years.

It need hardly be said that the bibliography of studies of the American scene is extensive. The Federal Trade Commission has long been interested in studying the extent of concentration of economic power and as far back as 1921 the Commission presented figures showing the extent of concentration in individual industries. Since that time its publications in this field have been extensive.

One of the problems in examining the structure of this or other economic areas is to establish a method or methods of collecting, classifying and segregating statistical data. How shall different industries be examined? Shall it be on the basis of firms, plants or concerns? And what about multi-product plants? The latter question has plagued statisticians and they have had to make compromises for various purposes. There is also the difficulty of making comparisons between countries when census techniques vary.

It will be seen from the discussion in Chapter II that definitions of concentration can be fairly selective — possibly inviting an arbitrary or even a prejudiced approach. An attempt will be made in Chapter II to reduce a considerable body of discussion to manageable proportions. This will prove most useful if only because it brings attention to the difficulty of determining what measuring stick or sticks could be used to indicate relative concentration. This, it is suggested, has considerable significance for policy decisions.

In Chapter III, when we turn to an examination of the literature in the field, one of the more significant discoveries is the lack of statistical information available in readily usable form. Since time and lack of available analysts preclude processing source data, it becomes necessary to rely on work already done and to accept measures used by others who have been working on this subject.

As already noted, there is only one study of the United Kingdom industrial pattern available and this is in a form which precludes any serious comparison with the United States and Canada and, because it is for one year only, this study does not permit any conclusion about trends in the United

Kingdom. The Canadian situation is much the same as that of the United Kingdom, although a study covering data for the year 1948 by G. Rosenbluth of Queen's University is now in the process of publication.[1] Obviously the projection of trends is out of the question. For the United States the task seems to be to reduce voluminous material to useful proportions for present purposes. This becomes a matter of choice and selection — always a hazardous task.

In Chapter IV an attempt is made to give some perspective to the whole problem of industrial movements and evolving patterns, and it seems reasonably clear that political philosophy has had a great deal to do with the course of events in both the United Kingdom and the United States. In Canada the relative lateness in industrial development, the proximity to the United States and other factors such as tariffs have played a part in the existing pattern.

The attempt to estimate the course of future developments in Canada in Chapter V provides the greatest difficulty, partly because of the lack in statistical data and partly because of the impossibility of assessing future government policy. Where direction is apparent, or seems apparent, it will be noted. Time does not permit examination of price movements or of statistical determination by industry of the degree to which imperfect competition is in existence. A study of this nature would, of course, be extremely helpful. It is also impossible to consider the effects of innovation, technological change or the changing elasticities of demand arising out of substitution.

Our moral—if this be the proper term—seems to increase in significance as the study progresses, namely that the terms "concentration" and "monopoly" are not interchangeable and that policy formulation in this field invites continuing care and objective consideration.

[1]We wish to acknowledge with thanks Mr. Rosenbluth's kindness in allowing us to see his manuscript.

2

THE MEANING, SIGNIFICANCE AND RELEVANCE OF THE CONCEPT OF INDUSTRIAL CONCENTRATION

When the structure of the economy is examined—with particular reference to the industrial segment—it is often useful for analytical purposes to look at business organization from the following points of view: the plant or establishment, the parent corporation or firm and the financial interest group or concern.[1]

An industry may be concentrated—or give the appearance of being concentrated—in one of several senses. It may be concentrated in the sense of agglomeration in one or several geographic locations; it may be concentrated in the sense that industrial activity is carried out in relatively few plants (or "establishments" as the Dominion Bureau of Statistics Industrial Census calls them); or it may be concentrated in the sense that the economic activity is carried on by a relatively small number of legal owners or firms, or in the sense that there are a relatively small number of economic decision-makers or concerns. The four concepts are relevant to four quite distinct, though not necessarily separate, problems of economic policy, namely:

the problem of the regional location of industry
the problem of optimum size
the problem of local monopoly
the problem of concentration of economic power.

The terms of reference suggest that consideration be given to firm and ownership concentration. Consequently, agglomeration is considered only to

[1]The third group has invited considerable attention if the following references serve as a useful sample:
—Temporary National Economic Committee, Monograph 27, *The Structure of the American Economy* (Sec. V and VI), Superintendent of Documents, Washington, 1941.
—A. A. Berle and Gardiner Means, *The Modern Corporation and Private Property*, (New York, 1935).
—Rufus Tucker, "Increasing Concentration of Business not supported by Statistical Evidence", *The Analyst*, July 1936.
—H. F. Houghton, "The Growth of Big Business", *American Economic Review—Proceedings*, May 1948.
—Report of the Smaller War Plants Corporation, *Economic Concentration and World War II*, Document 206, Superintendent of Documents, Washington, 1946.
—G. W. Stocking and M. W. Watkins, *Monopoly and Free Enterprise*, 20th Century Fund, New York, 1951. See especially Chapter 3.

the extent that it is related to firm concentration in Canada, and plant or establishment concentration only as it affects firm concentration and the disputation about the effects of firm concentration.

In a general way, plant concentration exists when a relatively small number of plants carry on a major share of the industrial activity and firm concentration is tentatively defined in a similar way. These definitions suffice to indicate the general significance with which some words are used in economics. They are not, however, sufficiently precise for analytical purposes. Many attempts have been made to achieve more precise definitions. Some economists have tried to define concentration (plant or firm) in terms of the methods used for measurement.[2] Concentration is a relative concept; thus its measurement must be in relative terms. The definitions based on direct measurement compare relative quantities. Typical of such definitions, therefore, is the following:

> "The index of (industrial) concentration may be measured as the percentage of industrial output (or employment, or some such variable) produced (or employed) by the three largest plants (or firms)."[3]

The Federal Trade Commission report's definition and index are more elaborate and sophisticated, but come to much the same thing. The report proposes that a concentration curve be prepared by plotting size of plants (or firms), measured in an acceptable unit such as employment or output, against number of plants (or firms). Either a logarithmic or arithmetic scale could be used. On an arithmetic scale, the curve rises from left to right at a diminishing rate; the general slope of the curve indicates the general degree of concentration. An index may be prepared by selecting some point "X" on the horizontal axis, say at four plants (or firms), and measuring the cumulative value of "Y", as a primitive function of "X", at that point.

Another approach to defining industrial concentration is to attempt precision of statement by defining it and measuring it indirectly in terms of its assumed consequences. Thus attempts have been made to define concentration as "the aggregation of economic resources by the largest firms"[4] or as "the domination of an industry by a small number of producers".[5] Other examples of this method, though of much greater precision and sharpness, are those of Professors Scitovsky, Lerner, Bain and Rothschild. Of these Lerner's may be taken as an example. He defines the degree of monopoly as

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[2]Illustrations of this are noted in, for example: H. Leak and A. Maizels, "The Structure of British Industry", *Journal of the Royal Statistical Society*, Vol. CVIII, pp. 142-199; National Resources Committee, *The Structure of the American Economy* Part I, Appendix 7, Washington, 1939; United States Department of Commerce, *Concentration of Industry Report*, Washington 1949; Temporary National Economic Committee, Monograph 27, Washington, 1941. The most elaborate of all these attempts is probably that of the Report of the Federal Trade Commission, *The Concentration of Productive Facilities*, Washington, 1949.

[3]G. V. Murtry, *Industrial Concentration in Canadian Industries*, Doctoral dissertation, Montreal, 1954 (McGill University Library).

[4]See particularly, A. R. Burns *et al* in *Modern Economics*, (New York, 1952) page 585.

[5]Berle and Means, *op. cit.* page 18, ff.

$\frac{p-c}{p}$, when p is market price and c is marginal cost. On the assumption that the degree of concentration is identical with the degree of monopoly, this measure defines the concept of concentration.

Some choice among these definitions appropriate to the intended analysis must be made by professional economists for their various purposes. To this, of course, no one can take exception. It is submitted, however, that any of them can be question-begging and dangerously misleading when used, as they have been, in the formation of public policy.

The definitions based on some form of direct measurement involve, first, the undefined concept of "the industry". For ordinary statistical and economic purposes the difficulties in this concept have to be ignored and some arbitrary definition, such as that of the Dominion Bureau of Statistics, must be accepted. But in a context of policy, say of deciding whether or not some firm or firms are guilty of promoting monopolistic practices contrary to the public interest, the question of what an industry actually is can be of prime importance.

Many products face close price competition from like products of different "industries". Thus butter is a product of the "dairy industry", but competes with margarine, which is defined as an industrial product—a product of the vegetable oils industry. Again, some firms may maintain multi-product plants. In the heavy chemical industry, for example, a firm may exist under an industrial classification as a dominant firm, yet may be in severe competition with single-product producers of like size in chemical tars on the one hand, in fertilizers in another case, in plastics, or again in abrasives.[6] Thus, to measure concentration in arbitrarily defined "industries" and to suppose that a high index of concentration necessarily means a lack of competition is debatable. A much more exhaustive and painstaking enquiry into particular circumstances should be made if policy is to be wisely conceived and justly administered.

Another problem inherent in all the attempts at direct measurement of concentration lies in the selection of the unit of measure of size of establishment or firm. It has become traditional in economic statistics to use either value of output or number of employees as the unit of measure of size. These two measures have a high degree of correlation so that it is assumed that they may safely be substituted for one another and may safely be used in default

[6]The problem of definition is further illustrated by reference to the Dominion Bureau of Statistics publication, *The Electrical Apparatus and Supplies Industry*, 1954: ". . . it is not possible to include all such producers in this group under the Standard Industrial Classification which is used for the annual Census of Industry. According to this system, which combines the concept of 'purpose' with that of 'chief component material', some important producers must be allotted to other industries. For example, since clay is the chief material used in making porcelain insulators, the producers of these goods have been classified to the Clay Products Industry under the main group which embraces all manufactures of non-metallic minerals; similarly the makers of electric washing machines have been included in the Machinery Industry of the iron and steel group. Again, some electrical supplies were made as minor products of plants which were primarily engaged in other lines of business and therefore were included in other industries."

of other units.[7] This latter conclusion is not entirely valid for two reasons: because value of output and employment vary with the trade cycle; and because it is conceivable that output could increase while at the same time the number of employees could decrease as a result of increased mechanization.

The whole controversy, which we shall shortly examine, about the causes of concentration turns on the question whether or not increased physical scale of firm (and of plant) leads to some substitution of capital for labour and some economies which can distort comparative measurement over time. Suppose (but only as a possible hypothesis, for we do not wish to beg questions), that a plant was re-equipped with new machinery which would reduce both labour employed and costs of production by, say, 20%; and further suppose that this 20% reduction in costs was handed on to the consumer in the form of lowered price. Still further, suppose a low elasticity of demand for the product (a rather difficult supposition but this is all hypothetical).

In such a case the plant would be larger in the physical sense, there would be economies of scale and there would be an advantage to the consuming public if the "savings" were passed on. There would also be competitive advantages to the firm which might become more powerful competitively in the industry. Yet the direct measures chosen would simply show that the plant had grown smaller. The plant would, however, rate as an "efficient" plant when measures of efficiency were applied. Thus it might tend to support the thesis that small and medium-sized plants measured in terms of employees are more efficient than plants of large scale.

At this stage no attempt is made to argue that plants of small scale are more efficient than plants of large scale or *vice versa*. (Indeed the final position to be established by subsequent argument is that the data permit no valid generalization either way. In some lines of production the advantages of large-scale plants cannot be effectively denied. And in other lines the situation is otherwise.) All that is suggested here is that there is an element of question-begging in the selection of employment or value of output as the appropriate measure of scale of formation. These units are selected, of course, for convenience. They are the only units readily available in statistical compilations and the only units easily applicable for purposes of comparison from industry to industry.

No exception is taken to the use of such measures in contexts in which they are meaningful. One might reject, however, the improper conclusion that the "statistical evidence" when based on such units of measure proves anything one way or another about the supposed economies of large scale formation or about the probable effects of increased concentration when measured in such units.

[7] In Chapter III in default of other units—given available statistics—we are obliged to use these measures. They bear a high degree of correlation one to another but this fact does not defeat the criticism already made. One approach not mentioned but which might prove fruitful is to measure economic power by some measure of *excess capacity*.

The definitions based on indirect measurement of alleged effects all beg the question that concentration reduces competition or increases monopoly. This may or may not be so. It is the assumption that it is *always so* that makes this position one of political dogma rather than economic science. The definitions take no account of the nature of the market. Regionally divided markets in a nation such as Canada may be such that a statistical series for the country as a whole would show ten like firms—widely separated —in apparent competition, whereas in fact each of the firms because of widely separated geographic locations may have been behaving quite monopolistically in its local market, protected, perhaps, by transport costs.

Let us turn now from these tedious but necessary questions about definitions to the relevance of the concept of concentration to the problems which at present face—and will continue to face—a developing Canada.

In the simplest terms, the question finally to be dealt with is this: is concentration bad? By "bad" we mean contrary to the material welfare of the people. There are two schools of economic thought on this question.[8] One may be summarized as maintaining that concentration is always the consequence of conspiracy among producers or the passion of a would-be monopolist for profits and power, and as such must be to the detriment of the public. This school, thinking in terms of firm concentration, tends to deny that concentration leads to economies of scale or that it results from the market instabilities created by technical innovation and entrepreneurial skills. The opposite school maintains that although it is true that concentration sometimes results from conspiracy, combinations and financial manipulation and is sometimes calculated to exploit the consuming public, other causes of concentration also exist.

Plant concentration may result from technological progress, the consequent instability of competition and economies of scale. Such plant concentration may or may not lead to firm concentration. Increased firm concentration may or may not result in less competition. A decline in competition among firms may or may not be detrimental to the public interest, though it sometimes is. Thus this school of thought, while not denying the potential dangers of concentration (plant and firm) and the possible evils of monopoly, insists on a much more searching analysis at three levels, namely: the causes of plant concentration and of firm concentration, the circumstances under which firm concentration reduces competition, and whether or not all diminutions of competition are detrimental to the public interest.

For purposes of brief reference the first above-mentioned school of thought may be referred to as the "anti-trust school" and the second is

[8]In this context we put to one side the contention of some that the question is unanswerable as stated. Economics, they say, can never say positively that a policy or a trend is "good" or "bad". In this submission and deliberations attendant thereto we are going to have to come to grips with the question of our anti-trust and anti-combines legislation and answer as best we can and in terms of what people seem to want whether the general effect of this legislation is conducive to more or less material well-being.

represented by Schumpeter and Harrod. The latter school may be identified by the emphasis placed on technological change (innovation) which, in many instances, has rendered a large or larger scale of formation advantageous by reason of reduced unit costs of production. This trend, it is submitted, makes competition unstable. As Mr. Harrod has said, if firms lack some agreement or combination "they will chase each other down their cost curves into bankruptcy".

The "anti-trust" position is that there is little evidence to confirm the contention that increases in scale are accompanied by increased economic efficiency.[9] It is also held that the trend towards continually increasing size of plant has greatly diminished in significance. And further it is held that there is no evidence to sustain the view that concentration is a natural process—the result of technical progress and innovation—and also that concentration is *prima facie* evidence of conspiracy contrary to public interest.

It is suggested in this study that evidence does not support the dogmatic conclusions put upon it by some members of the "anti-trust" school of thought.[10] The same evidence must be considered without preconception. First of all, the trend toward larger plant units, averaged over the economy as a whole, is diminishing, but the unit of measure used can sometimes be misleading. Moreover, more detailed examination has shown that the optimum size of formation differs greatly in different industries. For example, in the higher grade men's shoe industry, a relatively small scale of formation is the apparent optimum for maximum efficiency; in the aluminum industry a very large scale of formation appears to be the optimum size.

In some industries, which may have expanded beyond the optimum scale, there has been some contraction. In others expansion of scale has continued. The averages for industry as a whole conceal these specific industrial fluctuations.

In the second place, it is not really known whether typical firm size in physical assets has ceased to increase because the units of measure are misleading. Further, the general trend, even if established, would simply be an arithmetic average of differing trends in different industries. The market has expanded but whether increased concentration, as measured by the usual standards, has increased on the average or not has little significance when applied to specific industries.

In the third place, in the light of the discussion above, whatever the statistical evidence appears to show about efficiency in relation to the size of firms for the economy as a whole may well be meaningless. It may be meaningless because the measure of size could quite easily indicate that a plant which had grown larger in capital equipment had grown smaller in

[9]See Temporary National Economic Committee: *The Relative Efficiency of Large, Small and Medium-sized Businesses*, Monagraph 13, Superintendent of Documents, Washington, 1941.

[10]See Chapter V where a "sceptical" position with reference to both "schools" is more fully developed.

employment—the most frequent unit of measure in these statistical compilations—and thus would contribute to the notion that smaller firms are more efficient.

Even more serious as a qualification is the fact, mentioned above, that averages over the economy as a whole are dangerously misleading when applied to any specific industry. Since in many industries small or medium scale of formation is more efficient—or has been more efficient—than large scale of formation, the averages that result from lumping together all parts of an industrial complex yield no useful information about the optimum scale in any particular industry. Economies of scale may, in fact, exist without statistical detection either because the unit of measure is misleading or because real economies of scale in some industries are offset in the average figures by dis-economies of scale in others. Thus it is concluded that if the Schumpeterian school had not been able to prove its case by an appeal to the empirical data, those data do not support the anti-trust school in the manner that they superficially appear to do.

The position taken here on this controversial point is that it is doubtful whether a generalization over the economy as a whole about the relation of economic efficiency to size of formation is meaningful or scientifically useful. Attention is also directed to the point (as indicated in Chapter III) that a careful analytical distinction must be drawn between an increase in the size of the medium firm and the degree of concentration.

It is further suggested that any such generalization about firm size, efficiency and degree of concentration is dangerously misleading for political policy purposes. Whether innovations necessitate increases in scale for their proper exploitation; whether efficiency correlates with size of formation or not for the economy as a whole; or whether concentration is increased or diminished, may be quite irrelevant to the situation in any particular industry.

In some industries the Schumpeterian argument is certain to be proved correct, once the full facts of that industry are available to an investigating authority. In some other industries it is certain that the anti-trust argument will be proved correct by the pertinent data. In others it may well be that available data would leave the investigator in some doubt. The evidence of concentration, and the evidence of efficiency related to size as compiled for the industrial complex as a whole, are not conclusive with respect to any particular industry.

Let us turn now to the question about the connection between concentration and competition. It is assumed that increased concentration is established in some particular industry by some one of the usual direct measures of concentration. (Again we note that the method of measurement may itself be somewhat misleading; for the moment this possibility is ignored.) It is accepted as given or proven that concentration in some particular industry

has been established. Does this necessarily mean that competition has been diminished?

It is probable that increased concentration means some diminution in competition, but this is not necessarily so (except where concentration is measured by question-begging methods). It may be, as pointed out in an illustrative example above, that local monopolies can be broken down and increased competition result in an industry which by the same process has become more "concentrated" by direct measurement.

At this stage it is necessary to raise a fundamental point. The kind of competition which is always assumed when people speak of competition as being in the public interest is *"perfect competition"*, i.e. competition among sellers no one of whom can influence the prevailing price by any alteration in his output or offerings on the market. This purely theoretical condition seldom, if ever, exists in today's markets. The kind of competition that does exist is some form of *imperfect competition.*

Some economists have spoken of "workable competition". This concept is not as sharply defined analytically as the older concepts, but it appears to mean that unfair pricing policies are not followed and that "signals" of what one competitor means to do are relatively easily discernable to other competitors who can take appropriate steps to respond effectively.

In brief, "workable competition" rules out cutting selling price below cost to eliminate a competitor and calls for some approximate price adjustment on the part of Firm B to counteract a price change on the part of Firm A. "Workable competition" is competition in the common-sense business man's view of the word. It has no close connection with the economists' "perfect competition".

Now, when one says that "concentration reduces the degree of competition", what does one mean? Except as noted above, it can be agreed that an increase in concentration diminishes or impairs perfect competition. Since, however, perfect competition in the ideal sense seldom exists, it must generally be meant that an increase in firm concentration diminishes the degree of "workable competition". This does not follow; in fact, here is an example of the danger of giving a word two meanings. Perfect competition, if and where it existed, would be diminished by concentration, but workable competition has no clear connection with concentration.

In some cases increased concentration might augment, in others diminish, price signalling among firms. Once in the area of imperfect competition one cannot pronounce with logical rigour in any general way about the effect of an increase of concentration on the degree of workable competition.

It would be possible — but at undue length — to submit evidence both ways: evidence to show that in certain cases increased concentration had

diminished workable competition, in others that it has increased it. Thus, except for the rare case where perfect competition can be shown to have existed prior to an increase in concentration, no general conclusions are admissible about the nature of the effect on competition of an established increase in concentration. The most one could possibly say is that most economists would suspect some diminution of competition with an increase of concentration.

There is finally the assumption that a diminution in competition is always detrimental to the public interest. Would a breaking up of the transportation or communication or hydro systems bring about increased welfare to the public? It is impossible to be dogmatic in all cases, nor does it appear possible to establish "principles" even though in some groups there is a predeliction in this direction.

Between such cases of what has been called "natural monopoly" where public regulation or ownership appears to be the appropriate device in defence of the public interest, and the majority of cases where an increase in monopoly power is incontrovertibly detrimental to the public interest, lie certain borderline cases.

There are many industries in which, for a variety of reasons, competition is far from perfect. The causes of imperfection may have no connection with conspiracy or combination. It may be that geographic factors such as the site of the natural resources (for example in Canadian coal-mining) necessitate agglomeration, and the nature of the extractive or manufacturing process may necessitate a large scale of formation.

Limited size of the market, as in Canada, may impose a limitation on the number of firms of the optimum economic size, such as a limitation that the firms are too few to permit the existence of a perfectly competitive market. It may be, as in the "Harrod case" to which reference has been made above, that innovations in machinery requiring large capital outlay have reduced the number of firms and set up a condition of competition with decreasing short-run average costs. Whatever the cause, such market situations are not uncommon. The kind of "competition" which exists under these conditions bears no relation to the kind of competition Adam Smith talked about which has been regarded by some economists as the regulative principle that protects the public interest.

Firms under oligopoly conditions find that a change in the output behaviour of any single firm affects the price at which it and its rivals can sell. (In perfect competition a change of output by any single firm would have no effect on the market price). Thus, if the oligopolist could get his particular product distinguished from that of his competitors he could behave toward the demand for his brand much as the pure monopolist behaves. He could hope to earn excessive monopoly profits.

This tempts him into advertising expenditures of great magnitude to differentiate his product from the others. His "competitors" reply. Thus the nature of the resulting "competition" is a competition of advertising expenditure to influence people to buy one or another particular "brand" of a homogeneous product. Such competition might be called "workable" but is it socially useful or in the public interest?

Let us take an example. In a certain product the most efficient producer could reduce his price and still retain a reasonable profit with benefit to the public. He does not do so. If he did his "competitors" might be forced out of business. He would be left a monopoly. In view of Judge Learned Hand's decision in the Aluminum Company of America case the efficient producer fears the legal position he might find himself in if he behaved so as to force out of "competition" the less efficient firms which compete with him in the production of this particular product. One has to be doctrinaire to suppose that this *kind* of "competition" is really preferable to monopoly.

In the case of decreasing cost, for firms attempting to maintain a semblance of "competition" there are two possibilities. One is that the firms really obey the anti-trust laws and go on competing pricewise for all they are worth. In this case there is only one possible outcome: they go bankrupt one after another until only one is left. This monopolist can then select his most advantageous output, earn monopoly profits, if he choses, recoup his losses, and close all entry to the industry.

The other alternative is that the surviving firms at some stage in this ruinous process—this rake's progress imposed by ill-considered legal dogma —"get together" either in open and flagrant violation of the law, or in tacit agreement to evade it. Defenders of the anti-trust school of thought deny that this "Harrod case" exists, except as a theoretical possibility. This may be so, but no one could deny the possibility that such a situation could occur.

Regional Problems

The argument to this point might be said to be negative. An attempt has been made to show that previously accepted Canadian attitudes on concentration require re-thinking. Neither concentration as such nor its frequent monopolistic consequences has been defended. So far it has been suggested: (a) that the usual measures and definitions of concentration, useful or convenient for analytical purposes, may sometimes be most misleading and dangerous if used without caution and understanding for purposes of policy, (b) that concentration as measured by the only available units of measure need not always or necessarily result in a diminution of competition, and (c) that even when it does result in a diminution of competition it may not necessarily be detrimental to the public interest.

There remains for brief comment the question of geographic location and the economic development of certain regions. This is related to concentration.

In the Atlantic provinces where the rate of economic progress has been less rapid than in the central provinces, the development of secondary industries has been handicapped by the size of the markets within the area, and this has led to industrial concentration and geopraphic agglomeration in the more thickly populated parts of the country.

The primary industries of the Maritimes, even those depending on good resources, have tended to suffer because the size of the market close to home does not permit the economic substitution of capital for labour in the manufacturing process. "Rationalization"—as it is called—of the fishing industry, especially in Newfoundland, requires a larger scale of formation than has previously existed. This is now going on under the helpful assistance of the federal Department of Fisheries. Many may regard this as an unfair example and perhaps it is, but it invites in quite a dramatic way a rather important question, namely: at what stage in this process of economic development does such action run contrary to the public interest?

Canada is a long, thin narrow line of settlement along an American border protected not, indeed, by guns, but by tariffs and by customs' procedure barriers. Again and again, to serve effectively our own limited market and to make the best use of the techniques and the knowledge available to us, it has been necessary to allow the establishment of firms of comparatively large-scale in some industries, and the size of the Canadian market has not permitted many firms to enter these industries. Imperfection of competition is thus a natural condition of many Canadian industries.

In many other Canadian industries technical progress—or "rationalization" as it is often called—may depend on an increase in scale of formation, a probable (though not necessary, as Chapter III will show) increase in the degree of concentration and a possible (though not necessary) diminution of competition.

Applying the Data

Certain conclusions about policy are no doubt implicit in the foregoing analysis. Explicit policy recommendations, however, along with estimates of future trends toward greater or less degree of concentration, are reserved for the final chapter.

In the subsequent statistical presentations of the degrees of concentration found in industries in the United States, the United Kingdom, and Canada, the methods of measurement and the units of measure are, of necessity, those discussed earlier in this chapter, i.e., the method used is direct comparative measurement and the units are those available: employment and output. The results are, therefore, subject to all the qualifications and reservations which have been exposed and which must modify and limit the practical application of these data to problems of policy.

3

INDUSTRIAL CONCENTRATION IN THE UNITED STATES, THE UNITED KINGDOM AND CANADA

In this submission three politico-economic societies are under consideration—each at a different stage in industrial and/or commercial development, and each differing from the others in both kind and degree of resources.

Tables I, II and III below provide a comparison of the three economic areas under review. They point out, among other things, that in Canada and the United States manufacturing contributes about the same percentage to National Income at the present time, whereas in the United Kingdom the percentage is appreciably higher. It is in this manufacturing segment that major attention concerning concentration has been directed in recent years. As pointed out above,[1] it has been necessary to rely on research already completed or in process of completion.

The term *concentration* variously refers to the degree to which a large proportion of an industry's output (or employment, assets or other measure) is concentrated in a small number of firms. A number of indexes of concentration are in use; most of them measure the percentage of output (or other variable) concentrated in the largest "x" (usually 3, 4, or 8) firms; others measure the number of the largest firms accounting for "y" per cent (some high percentage) of output.

To aid in following the material presented in this chapter the mathematical relation between *concentration, size* and *inequality* should be kept in mind. For example: given the number of firms, concentration increases with an increase in inequality (inequality meaning the extent to which a large percentage of output is concentrated in a small proportion of firms); given the degree of inequality, concentration decreases with an increase in the number of firms. In other words, concentration increases (other things being equal) with an increase in average firm size or inequality of firm sizes and decreases with an increase in industry size.

[1]See Chapter I.

United States: In the United States there has been more concern with concentration in individual industries and in the production of particular products than in manufacturing as a whole. On the basis of available statistics it is somewhat more difficult to measure control over particular markets than concentration in manufacturing as a whole. For some products (e.g., steel and automobiles) current information on production and/or capacity provides a measure of concentration. For others, special studies prepared for Congressional committees or anti-trust cases may be consulted. For measurement of comparative degrees of concentration, however, reliance has been placed on special census tabulations.[2]

To measure the relative degree of concentration in individual industries the "concentration ratio" is generally used.[3] Although concentration ratios can be and have been computed for individual industries as defined by the Bureau of the Census, many of them are meaningless as indicators of control over particular markets. Concentration ratios based on the 1947 census were prepared for all individual industries; but in its analysis the Federal Trade Commission omitted approximately a fifth as unsatisfactory for the measurement of concentration.[4]

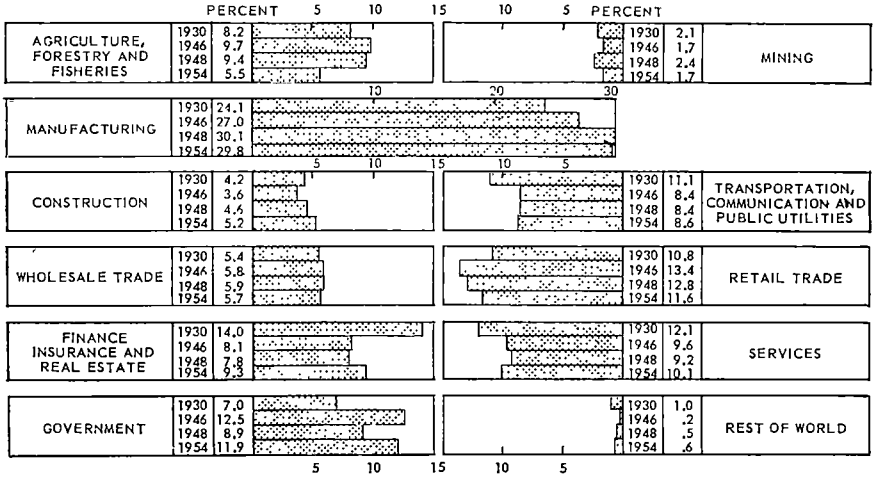
[2]Regularly published Census of Manufacturers statistics are on an establishment rather than a company basis. Census reporting has not been designed to obtain company data and it is almost an accident that the tabulations mentioned could be made. The Bureau of the Census has developed plans to tabulate a special set of tables from the 1954 economic censuses which will relate statistics for enterprises and their separate establishments. It is also planned to relate census statistics on employment, sales, inventories, etc., to financial statistics reported to the Securities and Exchange Commission and the Internal Revenue Service. These tables which are scheduled to be published in 1956 should give a much clearer picture of patterns of industrial concentration than has been available in the past.

[3]See Chapter II.

[4]*Report of the Federal Trade Commission on Changes in Concentration in Manufacturing 1935 to 1947 and 1950* (Superintendent of Documents, Washington, 1954).

TABLE I

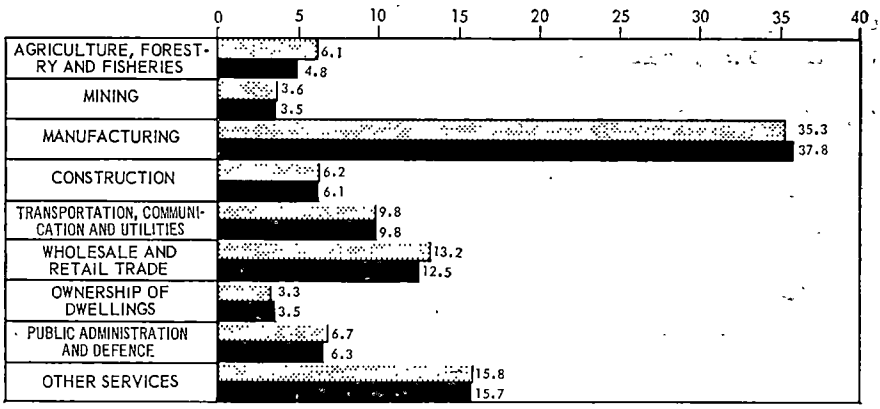
UNITED STATES – PERCENTAGE NATIONAL INCOME BY INDUSTRY GROUPS



Source: National Income 1954, U.S. Dept. of Commerce, Office of Business Economics.

TABLE 2

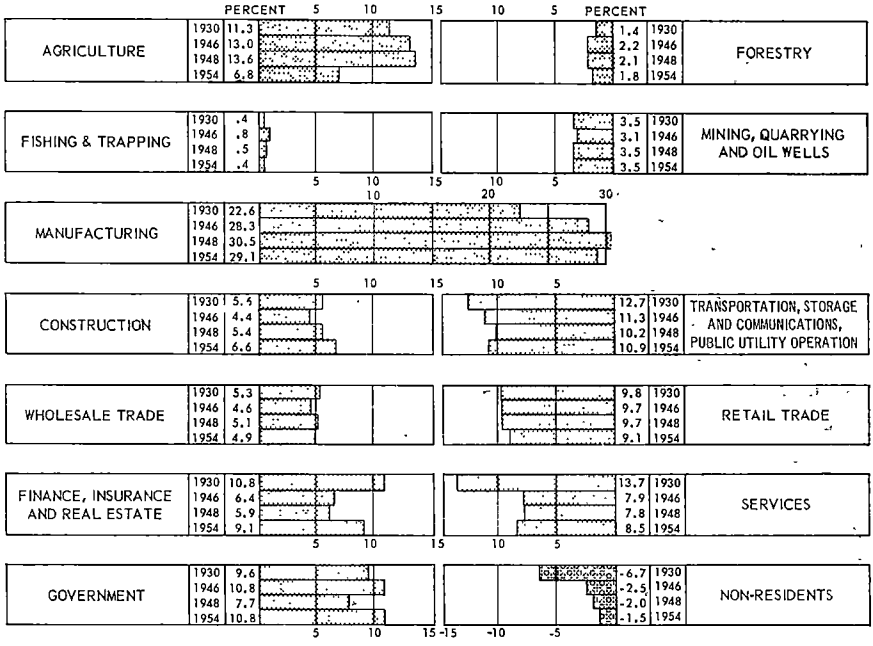
UNITED KINGDOM – PERCENTAGE NATIONAL INCOME BY INDUSTRY GROUPS



Source: National Income and Expenditure, 1955, Central Statistical Office, (H.M. Stationery Office, London, England)

TABLE 3

CANADA – PERCENTAGE NATIONAL INCOME BY INDUSTRY GROUPS



Source National Accounts, Income and Expenditure, Dominion Bureau of Statistics, Research and Development Division, (The Queen's Printer, Ottawa, Ontario)

The principal reason for discarding certain industries from the analysis was the heterogeneity of products classified in them, particularly the "not elsewhere classified" industries. It should be borne in mind that use of concentration ratios without some knowledge of the particular industry could lead to erroneous conclusions.

The Changing Scene

Probably the greatest difficulty in attempting to trace trends in concentration has been the rapidly changing character and structure of the American economy. Even if perfectly comparable statistical data from the turn of the century to the present were available, any conclusions drawn from such tabulations would be of questionable significance; the tremendous changes in the over-all size of the economy, technological developments, and the relative importance of different industries and products must be taken into consideration.

Even with studies covering relatively short periods of time (e.g., the 1935-1947 period studied by the Federal Trade Commission and by Rosenbluth), changes in industry definitions have been so extensive that comparisons could be made for only about 130 out of the 452 manufacturing industries defined in the 1947 Census of Manufactures. Conclusions based on a sample chosen in such a manner are necessarily subject to extensive qualifications. In spite of these qualifications, it is worth taking a brief look at the results of some studies which have been made.

A study of concentration by Nutter[5] suggests that during the period 1899 to 1937 there was *on the average* no appreciable increase in concentration within industries.

In the *manufacturing* field, industries in which at least four firms were dominant accounted for 32% of income in 1899 and 28% in 1937.[6]

In the *mining* field, the highly concentrated industries accounted for 40% of income in 1899 and 27% in 1937.[7]

On the other hand, *in finance,* Nutter's study suggests that the average level of concentration rose, although exact figures are not available.[8] *Public utilities* were, of course, highly concentrated in both periods. There is no reliable information on concentration trends in the other industrial sectors.

Nutter's criteria of monopoly, however, are admittedly somewhat arbitrary. By using a broader definition of monopoly for 1937, his findings are substantially reversed and he concludes that it "would consequently appear that the extent of monopoly increased slightly relative to the whole economy and substantially relative to the extent of competition". Averaging the two

[5] G. W. Nutter, *The Extent of Enterprise Monopoly in the United States, 1899-1939,* (Chicago, 1951)
[6] *Ibid.* Table 8.
[7] *Ibid.* Table 9.
[8] *Ibid.* pp. 36, 40, 111, 116.

methods he concludes that "a slight decline is indicated in the extent of monopolies relative to the whole economy, while no change is indicated in the extent of monopolies relative to the extent of competition". The reader must take his choice, understanding that the available data are subject to so many qualifications that only a biased observer could draw definite conclusions from them.

Rosenbluth shows that on the average there was little change in concentration within manufacturing industries during the period 1935 to 1947.[9]

The weighted average concentration index (percentage of output controlled by the four largest firms) shows a decline from 1935 to 1947 which reflects a slight increase in the relative importance of industries with low concentration. The *average* change in concentration within industries was close to zero.[10] Again, averages hide the diversity of patterns in individual industries, but *large* changes in concentration were exceptional. The diversity of patterns is well illustrated in the Federal Trade Commission's study of changes in concentration.[11]

One may conclude from these studies that the average level of concentration in American manufacturing industries has not changed materially in recent years, that it is more likely to have fallen than risen, and that many industries exhibited remarkable stability of concentration.

It might be noted that although recent studies indicate that concentration has not *risen* appreciably, if at all, this is not to say that it is *low*. It is generally agreed that there was an increasing rate of concentration in the early stages of industrial development followed by a flattening during the early part of this century.

The number of business firms, according to the U.S. Department of Commerce, has shown a rising trend in the first half of the present century, and this increase in number has tended to keep the level of concentration from rising. The increase has not been steady, but it has been most pronounced in periods of peacetime prosperity and has been reversed in severe depression and war.[12] In the depression of the 'thirties the decline in the business population was concentrated in manufacturing, but during the war the decrease was concentrated in retailing.

We find that most business firms are extremely small, regardless of the measure we use. In 1951, 75% of the firms had less than four employees and 95% had less than 20 employees. But nearly half of all employment (in the sectors of the economy covered by these estimates) was concentrated in the few firms with 500 employees or more. Less than one per cent—firms with at least 10,000 employees each—had 19% of employment. If corporate sub-

[9]G. Rosenbluth, "Measures of Concentration", *Business Concentration and Price Policy*, a Report of the National Bureau of Economic Research (Princeton, 1955).

[10]*Ibid.* pp. 80, 81.

[11]*Federal Trade Commission Report (1954)*, pp. 63, 66, 67 (Superintendent of Documents, Washington).

[12]A. R. Oxenfeldt, *Industrial Pricing and Market Practices*, (New York, 1951) p. 10.

sidiaries were included with their parent companies concentration would, of course, be higher.

If the number of employees is used as a measure of *size,* the conclusion is that the average size of business firms (excluding farming, forestry, fishing, the professions) has increased noticeably since the prewar period. The average number of employees per firm rose from 8.5 in 1939 to 10.2 in 1948 and it is probable that in terms of real output or assets the increase was even greater.[13]

The increase in firm size has occurred in all important branches of industry,[14] but there has been no detailed study of the extent to which this increase in size is due respectively to increases within industries and to shifts in the relative importance of different industries.

The one source from which annual statistics are available on a reasonably comparable basis over a fairly long period of time is "Statistics of Income" published annually by the Internal Revenue Service. Unfortunately, in these tabulations, firms are classified by total assets and it is impossible to obtain statistics on say, the 200 largest firms, over a period of years from published reports. The over-all expansion of the economy, coupled with the increase in the price level, has naturally resulted in a fairly steady increase in the number of firms with assets of over $100 million (from 72 in 1936 to 199 in 1951). The increase in the percentage of assets, receipts, etc., accounted for by these large firms is, therefore, not significant as an indicator of increased concentration.

Differences in the percentage of the total accounted for by these large firms, depending upon the measure used, however, are at least interesting. Of possible significance for the future is the apparently steady increase in relative profitability of large manufacturing concerns. If this trend continues, as a recent "Fortune" survey indicates it has, it would seem to point to a condition which may lead to further concentration as smaller, less profitable concerns are forced either out of business or into mergers.[15]

When we come to sum up the trends in the American economy, available literature suggests that perhaps the most impressive feature is the sketchiness of the data, which contrasts sharply with the firm convictions held in this field.

Certain conclusions regarding the manufacturing industries can, however, be drawn with some confidence. During the last 20 years there has been an increase both in the size of firms and in the degree of inequality of firm size within industries. Both of these are, of course, related to the striking economic upswing from depression, through war, to postwar boom.

[13] A. D. H. Kaplan, *Big Enterprise in a Competitive System,* (Washington, 1954) p. 69.

[14] *Ibid.* p. 70.

[15] "Box Score of Business Bigness", *Fortune,* July 1955, pp. 96-97.

Any general conclusion in respect to changes in the degree of concentration must, however, be severely qualified. A classic example of such qualification has been made by Adelman: "But in view of the roughness of the early data and the crudity of some estimates, it seems best to state conclusions as follows: The odds are better than even that there has actually been *some* decline in concentration. It is a good bet that there has at least been no actual increase; and the odds do seem high against any substantial increase."[16]

The effect of mergers on concentration has not been (and probably cannot be) fully understood. There is no doubt they have contributed to concentration, but probably not in as important a way as has been generally believed.[17] Nevertheless, they are looked upon with suspicion by legislators and by the general public.

It is difficult to legislate against internal growth of existing companies—and, in the eyes of the public, internal growth is basically good; it is the reward of success in the best American tradition. Growth through the acquisition of other firms, however, reminds the public of the familiar picture of the octopus. Not only have widely publicized mergers been largely responsible for anti-trust laws, but acquisitions, the effect of which "may be substantially to lessen competition, or to tend to create a monopoly" are specifically legislated against.

During the postwar period there have been some spectacular mergers, and Congressional interest in the subject has reached another peak. A majority report of the Sub-committee on Study of Monopoly Power of the House of Representatives Committee on the Judiciary, issued on December 26, 1955, charged that increasing mergers were killing free enterprise and leading to dangerous monopoly. "This is one of the most ominous clouds on the economic horizon, since it is hastening the reduction of competition in many areas and contributing in large measure to the growing concentration of economic power."

Federal Trade Commission studies show, however, that although merger activity in manufacturing and mining since the end of World War II has been well above the level of the 'thirties it is below that of the 'twenties.[18] Table IV indicates mergers and acquisitions over a period of 25 years in the manufacturing and mining industries. These tabulations are significant only as indicative of a trend. Admittedly they do not include the many small acquisitions that do not come to the attention of the Commission, but they are reasonably comparable from year to year.

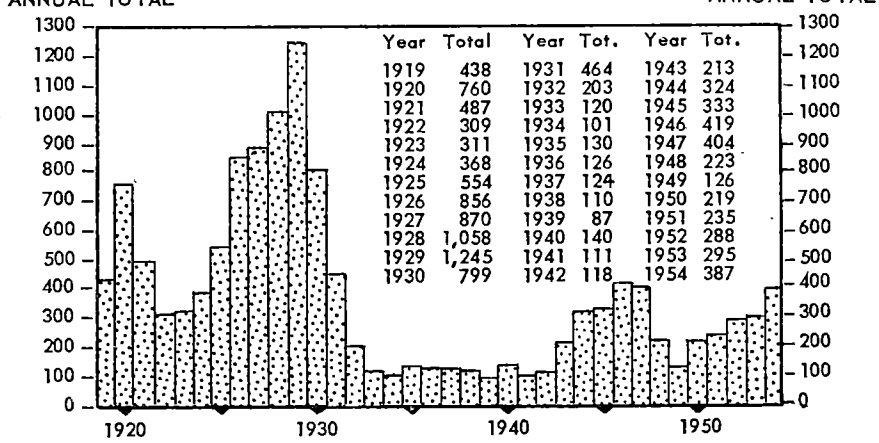
[16]M. A. Adelman, "The Measurement of Industrial Concentration", *The Review of Economics and Statistics*, November 1951, p. 292.

[17]See discussion of Weston's study below, p. 67.

[18]Federal Trade Commission, *Report on Corporate Mergers and Acquisitions*, May 1955. (Superintendent of Documents, Washington).

TABLE 4

NUMBER of MERGERS and ACQUISITIONS in MANUFACTURING AND MINING
1919 – 1954



Year	Total	Year	Tot.	Year	Tot.
1919	438	1931	464	1943	213
1920	760	1932	203	1944	324
1921	487	1933	120	1945	333
1922	309	1934	101	1946	419
1923	311	1935	130	1947	404
1924	368	1936	126	1948	223
1925	554	1937	124	1949	126
1926	856	1938	110	1950	219
1927	870	1939	87	1951	235
1928	1,058	1940	140	1952	288
1929	1,245	1941	111	1953	295
1930	799	1942	118	1954	387

Sources: 1919 – 39, Temporary National Economic Committee, Monograph No. 27. 1940 – 47 and 1948 – 54, Federal Trade Commission. (Based on actions reported by Moody's Investors Service and Standard and Poor's Corp.)

Although the Federal Trade Commission does present some information regarding the size of acquiring and acquired firms, it is incomplete and thus does not provide the basis for any firm conclusions about the effect of these mergers on industrial concentration.

In its earlier report covering the years 1940-1947 the Federal Trade Commission stated: "No great stretch of the imagination is required to foresee that if nothing is done to check the growth in concentration, either the giant corporations will ultimately take over the country, or the Government will be impelled to step in . . ."[19]

"Either this country is going down the road to collectivism, or it must stand and fight for competition . . . Crucial in that fight must be some effective means of preventing giant corporations from steadily increasing their power at the expense of small business."[20]

A study by Butters and Lintner covering the same period[21] apparently led them to an opposite conclusion and it is significant that, in its later report on mergers, the Federal Trade Commission did not repeat its original statement. The Butters and Lintner study showed that acquiring companies with assets of $100 million or more had an average growth through merger of only 2.3%. At the other extreme, companies with assets of less than $1 million grew through merger by 142.3%. Not only were mergers a less

[19]Federal Trade Commission, *The Merger Movement, A Summary Report 1948*, p. 68 (Superintendent of Documents, Washington).

[20]*Ibid.* p. 69.

[21]John Lintner and J. Keith Butters, "Effect of Mergers on Industrial Concentration, 1940-1947", *The Review of Economics and Statistics*, February 1950.

important source of relative growth for large than for small companies, but virtually all the firms disappearing through mergers or acquisitions were small companies.

Mergers of large firms with other large firms, prominent during earlier periods, did not occur during the years studied. Although by definition any merger suggests increased concentration, it is doubtful that the mergers which took place between 1940 and 1947 increased substantially any of the standard measures of concentration. In spite of all the uncertainties involved in measuring the effects of mergers, it can be said that between 1940 and 1947 merger activity was dwarfed by other forms of growth.

"In the eight-year period, total assets of mining and manufacturing corporations increased by more than ten times the estimated $5 billion involved in all mergers in mining and manufacturing. In five out of 15 manufacturing industry groups, the net increase in the number of active firms between 1940 and 1947 was over 100 times the number lost through merger."[22]

While no generalization applies to every case, the weight of evidence indicates that the mergers of the late 1800's and early 1900's were largely designed to obtain control of the markets for particular commodities; in those of the 'twenties the profits to be gained through promotion apparently played a major role.

All mergers are undertaken for sound business reasons, but in the post-war years, apparently, anti-social motives did not prevail.

In a sample of 299 mergers which took place between January 1, 1951 and July 31, 1954, the following are the most important advantages the merger or acquisition provided the acquiring company (listed in order, those most frequently mentioned being first):

Larger capacity to supply former markets;
A lengthened product line;
Diversification;
Facilities to supply goods formerly purchased;
Same type of facilities in a new market;
Facilities to process or distribute goods formerly sold;
An empty plant or plant site.

Even though the reason for merger may be perfectly sound from the company's point of view and may involve no effort to monopolize any market, this does not say that it may not increase concentration.

The best general conclusion that can be reached at present is that the recent merger movement has not reached large proportions and has probably had little effect on over-all concentration.

[22]Jesse W. Markham, "Survey of the Evidence and Findings on Mergers", *Business Concentration and Price Policy*, National Bureau of Economic Research (Princeton, 1955).

Factors Affecting Concentration

In the preceding sections, various factors affecting industrial concentration in the United States have been mentioned. A brief note of these and others not previously considered is in order at this point since they have a bearing on public policy. Although the discussion is in terms of experience and conditions in the United States, with some modification these factors are also applicable to the United Kingdom and Canada. These factors are:

(1) Increased emphasis on items requiring large-scale plants for efficient production.

(2) Market alterations caused by technological developments, shifts in consumer demand and developments in substitutes.

(3) Growing importance of research. Obviously, the large company which can afford to set up extensive laboratories and employ outstanding scientists for research has a tremendous advantage over its smaller rivals.

(4) The diversification which is becoming more and more characteristic of very large corporations. This diversification makes the analysis of control over the markets for individual commodities less significant but increases the apparent degree of concentration. Yet the ability of a large, multi-product firm to enter a new market with a high degree of success indicates that large scale of formation may sometimes increase rather than diminish freedom of entry and workable competition.

(5) Self-protection. The size and power of the very large corporation has, in some cases, caused smaller competitors to combine in order to compete more effectively.

(6) Taxes. The effect of taxes on corporate mergers has been studied extensively by Butters, Lintner and others in the Harvard Business School.[23] These studies indicate "that for the period since 1940 taxes have been a major reason for sale for about two-fifths or a little more, of the transactions in which the selling company had assets of between $15 million and $50 million as of the date of sale, for between one-fourth and one-third of the companies sold in the $5 million-$15 million asset size class, for a little over one-fifth of the companies in the $1 million-$5 million class and only rarely for the sale of companies with assets of under $1 million".

(7) Brand names and advertising. The advertising fraternity has received some criticism for having contributed to concentration by creating consumer preferences for widely advertised brands.

[23]See Butters and Lintner, *Effect of Federal Taxes on Growing Enterprises* (New York, 1954); Butters, Lintner, Cary, *Effects of Taxation on Corporate Mergers* (New York, 1951); Lintner and Butters, "Effects of Taxes on Concentration", *Business Concentration and Price Policy*, National Bureau of Economic Research (Princeton, 1955).

(8) War and defence activity. The importance of production for war and defence purposes in recent years has been a factor in increasing over-all concentration in manufacturing.

(9) Access to securities markets. A major problem facing any small business is obtaining funds necessary for expansion. Not only is the cost of floating small securities issues relatively high, but for all practical purposes the securities markets are unavailable to small business.

When we turn to the situation in the United Kingdom, we find no study available dealing with the trend in concentration, nor are there any statistical data available in workable form to provide the basis for trend analysis.

The definitive work on the structure of British industry is a study by H. Leak and A. Maizels presented to the Royal Statistical Society in 1945.[24]

Their analysis is based on the 1935 census data. This study of industrial structure in the United Kingdom has some usefulness for present purposes if we bear in mind the industrial developments in the United States and in Canada, and the fact that, with respect to concentration, very little *marked* change has taken place over the past decade.

At the outset it must be noted that the question of definition entered into the analysis. Here "firm" was defined as the aggregate of all establishments operating under the same name irrespective of the nature of the output; while a business unit was defined as the aggregate of firms owned or controlled by a single parent company. Within this general classification additional breakdowns were made between major units (employing 1,000 persons or more), giant units (employing 20,000 persons or more), single units, connected cases (covering units comprising more than one firm), holding companies and subsidiaries.

When we use production and employment as a yardstick the study yields some interesting results, although it was noted in the study that "the percentage of employment is the most convenient one to use when comparing concentration in different industries since the values recorded for gross output include various amounts of duplication while those for net output are subject to other limitations".

On the basis of employment the highest degree of concentration—at least 90%—was in the manufactured fuel and wall-paper trades, the match trade, railway companies, the petroleum and explosives and fire-works trades, and between 70% and 80% in the spirit distilling, seed crushing, wrought iron and steel tube and sugar trades. At the other extreme, the degree of concentration for the building and construction trade was only 2%; while the figures for the timber and cotton weaving trades were 3% and 4% respectively.

[24]H. Leak and A. Maizels, "The Structure of British Industry", *Journal of the Royal Statistical Society 1945*. Vol. 108, pp. 142-207.

It was also noted that the trades for which the degree of concentration was greater than 4% but less than 10% were woollen and worsted tailoring, dressmaking, the making of furniture and upholstery, boot and shoe, hat and cap, finished brass, china and earthenware and coal mining. Certain problems in grouping were noted with particular reference to the bicycle trade. As the authors point out: "In certain cases the degree of concentration of employment shown for the trade is rather misleading. For example, the figure is 70% for bicycles and tricycles, whereas the degree of concentration of output of complete bicycles and tricycles is only 55%.

"The reason for this discrepancy is that the *whole* of the output of an establishment is classified to the trade or sub-division appropriate to the *predominant* output of the establishment, so that where establishments are not highly concentrated on the production of the principal products of a trade or sub-division, the output other than the principal output included in the aggregates for that trade or sub-division is relatively large.

"In the case in question, the three largest units taken together, in addition to producing complete bicycles, also make significant quantities of cycle parts and accessories, so that the employment in the sub-division includes people making parts as well as those employed on making complete bicycles. Consequently the degree of concentration of employment in the sub-division is high, the employment in the three largest units being swollen by this additional employment on parts and accessories to a much greater extent than that of other firms. This factor is, however, eliminated when considering the output of the product itself.

"It can be seen from the table on page 368 of Part II of the Final Report on the Fifth Census of Production that the gross output of establishments classified to this sub-division was £7,475,000, whereas their output of characteristic products (i.e. bicycles and tricycles) was only £5,821,000, the difference being largely the parts and accessories already mentioned."

Perhaps the most interesting features of the presentation of this study were the comments that followed the paper, and at the risk of digression, one or two are worth noting:

> "The first question I asked myself was, What is the aim of this extraordinarily complicated, detailed and careful piece of analysis? It is, I suppose, to try to present a picture of the extent to which control operates outside the boundaries of the firm which is the normal unit presented in an analysis. As Mr. Campion said, a definition had to be found of financial control, and there is a further question which follows from the point which Mr. Campion made, and that is whether it is possible for the statistician to pit his wits against the financier's and measure the extent to which the latter is able to exercise control without majority holdings.

"The paper goes beyond that, because it tries to examine in considerable detail the extent of vertical and horizontal combinations. Mr. Campion made a point which occurred also to me, the apparently low degree of pure horizontal combination—that is, connected companies in a single trade—given as upward of 8 : 1 of connected companies in more than one trade. In the business I was in before the war—chocolate and confectionery manufacture—we were allied to another firm, and we regarded ourselves as two firms in the business, and would expect to find ourselves classed as connected firms in the same trade. Unfortunately, from the point of view of the statistician, we made the boxes in which the chocolates were packed, and thus moved from connected companies in one trade to connected companies in more than one trade. This shows how difficult it must be for any group of firms horizontally connected to maintain, so to speak, the purity of that connection in a single trade.

"To go back to the difficult question of the real meaning behind the various tables in the paper, how important is it in terms of monopolistic control that there is a high degree of concentration in three units which are responsible for 50% or 60% of the total output? It is interesting, but may be unimportant, that there may be two industries with precisely the same general statistical pattern. In one there may be a very powerful trade association, a close agreement between members on terms of sale, and restrictive practices may operate without any financial interrelation, while in another industry there may be cut-throat competition of the fiercest character. That is an important and profound difference between those two industries. I should like to ask whether that sort of information could be included in a detailed statistical examination of the structure of British industry.

"One direction in which the paper was open to criticism was in the use of the word 'monopoly' in relation to concentration. There were various scattered references to this in the paper, and it seemed clear that the authors associated concentration with monopoly. This was a misleading use of terms, because they were not necessarily synonymous. For instance, in the photographic trade, Table XIII showed that there was a 98% concentration in plates and films, but the position before the war was that whilst there were three main British producers, there were also imports, and the trade was, to the best of his knowledge, competitive and not monopolistic. The association of the term 'concentration' with 'monopoly' was dangerous, particularly at the present time, when a good deal of mud was being slung at industry on the score of cartels and there were requests for enquiry into the degree of monopoly in industry. As the paper would appear to give semi-official sanction to such accusations, it was desirable that the issue should be a little more clarified."

In reply to the criticisms Mr. Leak and Mr. Maizels raised a number of points, two of which are of interest:

> "Mr. Schwartz refers to the American investigation, which provides an alternative basis of analysis; to have adopted this method would have involved a great deal more work, which unfortunately we could not at present contemplate. He makes a comparison between the figure of 52% (the actual figure for factory trades is 50%) for employment in manufacture in the United Kingdom accounted for by 'units', and the figure of 51% for the United States. From the closeness of these two percentages, he draws the conclusion that 'there might be something in modern organization which brought about these results', in spite of the different legislation covering the development of concentration in the two countries. Unfortunately, the two figures quoted by Mr. Schwartz are not comparable. We were at pains to explain that a 'unit' related to a firm or aggregate of firms owned or controlled by a single company and employing 500 persons or more. The figure of 51% for the United States, however, relates to employment in 'central office groups'. A central-office group is defined as 'two or more plants controlled or operated by one ownership interest'. This excludes all the 'single cases' with only one establishment, and also all establishments with an annual value of products valued at less than $5,000. The comparable figure for the United Kingdom would accordingly be significantly lower than the 51% for the United States, in spite of the anti-trust legislation in that country.
>
> "Mr. Smith correctly points out the important distinction between concentration and monopoly. Monopoly is a term which can have very many meanings. But, however defined, a fundamental aspect of monopoly, or near-monopoly, is the concentration of output in few hands, and it was only in this sense that any reference to monopoly in the paper was made. We were not concerned to measure the extent to which a few firms monopolized the home market, that is to say the share they had in the total value of the product available for consumption in this country, after allowing for imports and exports. That could have been done, had it been so desired, and it is simple arithmetic for any one to do it from the information given in the paper, coupled with the import and export statistics."

The Canadian Scene

At the outset it may be noted that with respect to concentration, attention given the Canadian economy has been focused on the manufacturing segment. There has been no study on the trend of firm concentration and there is no comprehensive source of information on this question. Available statistics cover corporations only; apart from this there is the difficulty of

having no size breakdown of these statistics for industry classes defined narrowly enough to be relevant to market concentration.

Some scattered information can be derived from a comparison of data in Reynolds' study for the 'thirties with the Dominion Bureau of Statistics' tabulation for 1948.[25] This comparison is given in Table V below.

Reynolds' tabulation was confined to industries with high concentration and the table shows that these 13 industries with high concentration in 1933-35 still had high concentration in 1948. The figures are consistent with the assumption that in five cases concentration has not changed, in six cases it has declined, and in two cases it has increased.

These indications of decline or increase in concentration are not conclusive, however, since Reynolds' figures are subject to a large margin of error, and one cannot be sure that the scope of his "industries" corresponded to manufacturing census definitions. But the table does suggest the absence of any widespread *large* changes in concentration in this period.

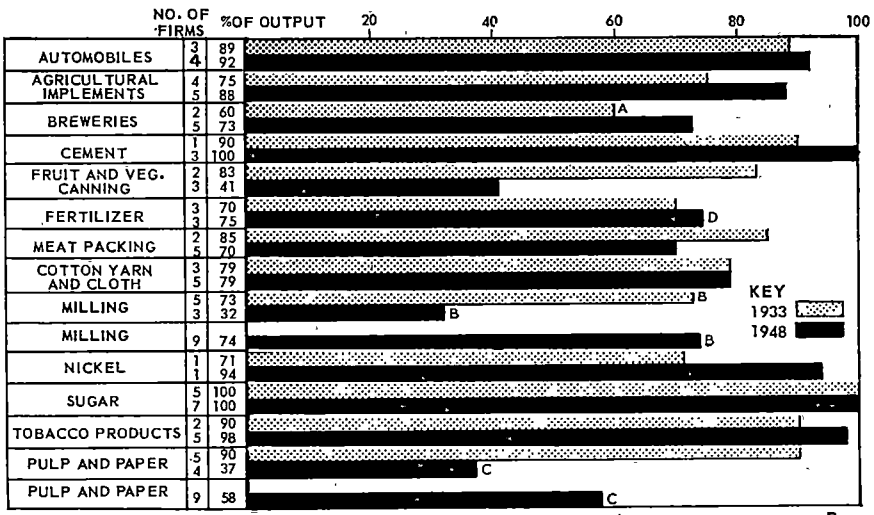
With reference to plant concentration, Rosenbluth's study[26] shows that while over-all plant concentration in manufacturing rose sharply between 1890 and 1922, there was no substantial change between 1922 and 1940, and the postwar level (1946-48) was somewhat lower. There is reason to believe that these patterns also characterize the *average* level of plant concen-

[25] L. G. Reynolds, *The Control of Competition in Canada*, (Cambridge, 1940).

[26] Rosenbluth, *Concentration in Canadian Manufacturing Industries*, (New York, in press).

TABLE 5

COMPARISON OF CONCENTRATION 1933 AND 1948
SELECTED MANUFACTURING INDUSTRIES WITH HIGH CONCENTRATION



Source: Reynolds (1940) p. 5 and D.B.S. unpublished tabulation. A Ontario, Quebec only. B Flour only, 1948. 1933 coverage not known. C Net value added. Percentage of gross output, 37 and 57 respectively. D Figures for mixed fertilizer from Report of Royal Commission on Prices, Vol. III, p. 163. Concentration in fertilizer materials is higher.

tration *within* industries. These conclusions hold for concentration measured in terms of both output and employment.

Over-all plant concentration in manufacturing increased sharply during the second world war and then fell again. The rise reflected mainly the increasing importance of war industries with large plants and high concentration; it was not due to increasing plant concentration within industries to any significant extent. The subsequent fall, however, reflected both the declining importance of war industries and the decreasing concentration within industries which arose from a sharp increase in the number of plants.

The decline in plant concentration between 1922 and 1948 took place in the face of a trend to increase the average size of plants.

Measured in terms of employment, average plant size increased somewhat during the 'twenties, but not during the 'thirties. During the second world war plant size increased rapidly, and while it fell again from a 1943 peak, the average stood at 35 employees per plant in 1948 as compared with 27 in 1937 and 24 in 1923. This rising trend in average plant size reflects increasing plant size within industries rather than any increase in the relative importance of industries with large plants.

The story is similar if size is measured in terms of an index of real output per plant where the increases are more pronounced than those in employment. If plant size is measured in terms of the horse-power capacity of prime movers installed, an increase is recorded even during the 'thirties. Increasing plant size is often identified with increasing concentration, but this, as has been pointed out, involves a logical error.

In Canada the number of plants increased without an offsetting increase in inequality of plant size, so that concentration decreased. The number of plants rose almost continuously through the 'twenties, 'thirties and 'forties, and more sharply after the second world war. (In 1923 there were 21,000 plants; in 1929 there were 22,000. There were 25,000 plants in 1937, 29,000 in 1942, 33,000 in 1948, and 36,000 in 1951—excluding Newfoundland). The combination of increasing plant size and increasing number of plants was, of course, made possible by the great expansion of the market for manufacturers, first in the 'twenties and then in the war and postwar period.

Canadian manufacturing industries vary greatly in their degree of concentration, but the average level of concentration is very high. In half of a large sample of industries studied by Rosenbluth, nine or less of the largest firms account for 80% of employment; in one-third of the sample less than five firms account for 80% of employment. Examples of industries with high concentration are the primary metals, automobiles, railway equipment, cotton textiles, cigarettes, distilleries, and many of the industries processing non-metallic minerals and chemicals, such as glass and compressed gases.

On the other hand, there are many industries in which concentration is quite low. In one quarter of Rosenbluth's sample over 40 firms are required to account for 80% of employment. Low concentration is typical of the apparel industries and many other branches of the textiles group (but not cotton yarn and cloth or cotton thread), as well as bread baking, butter and cheese, and many other food processing industries. Other examples of industries with low concentration are saw mills, planing mills, machine shops, cement products, pharmaceutical preparations. In some of these industries (e.g. bread) concentration measured on a national basis does not indicate the degree of market control, since different regions constitute substantially separate markets. Within each such region concentration is likely to be higher. Industries in which the technique of production requires a high proportion of capital in relation to labour often have higher concentration than those in which this proportion is low.

In the sample investigated by Rosenbluth three factors—industry size, capital intensity and differences in regional market structure—accounted for 62% of the variation in concentration among industries, almost entirely because of the influence of these factors on the number of firms. Variation in the inequality of firm size accounted for only 7% of the variation in concentration.

When we consider comparable industries in Canada and the United States in the light of available evidence, we find (a) that with few exceptions each of these industries has fewer firms in Canada than in the United States, and (b) that the inequality of firm sizes is generally greater in the United States. Since the difference in (b) is not sufficiently great to offset the effect of (a), these comparable industries have higher concentration in Canada than in the United States with very few exceptions, and in many cases the difference is considerable.[27] These differences in number of firms and in firm sizes are caused by the much smaller market available to Canadian industries. The similarity of *average* firm size undoubtedly reflects the similarity of technology and business organization in the two countries.

Reference has been made repeatedly to economies of scale and it seems relevant now to consider this question.

The state of our knowledge regarding the economies of scale and their relation to concentration is well summarized in a recent article by J. S. Bain in which he also makes a significant contribution to the study of this problem.[28]

"Economists", writes Bain, "have relied mainly upon *a priori* speculations and qualitative generalizations of the broadest sort. A popular Ameri-

[27]Rosenbluth, *op cit.* cf. Chap. V.

[28]J. S. Bain, "Economies of Scale, Concentration and Conditions of Entry in Twenty Manufacturing Industries", *American Economic Review*, Vol. 44 (1954) pp. 15-39.

can view is that economies of large scale plant do exist—and that the efficiency of plants as large as are built may be conceded—but that further economies of large multi-plant firms do not exist, or if they do, are strictly pecuniary in character and hence not to be sought or justified as a matter of social policy . . . The dominant British view . . . gives more credence to the alleged economies of large-scale firms. Both schools rely upon qualitative and substantially untested generalizations about productive and commercial techniques . . .

"Direct empirical investigation has not added much to our knowledge . . . The industries studied have been so few, the periods of time reviewed so remote and brief, and the use and interpretation of the statistical data in most instances so open to question that no reliable generalization regarding scale curves can be drawn from this material".

Bain's own study is not based on statistical or accounting data, but on "managerial" or "engineering" estimates supplied directly by business firms in response to a carefully planned attack by questionnaire and interview. He thus obtained data on the lowest-cost plant and firm size in each of twenty manufacturing industries. His data are *"ex ante"* predictions of the net relation between cost and size rather than an *"ex post"* comparison.

Table VI summarizes some of Bain's findings. In his sample the percentage of an industry's output required for an optimum size plant ranges from

Table VI

OPTIMUM PLANT AND FIRM SIZE, U.S.A.

Industry	(1)	(2)	(3)	(4)	(5)
			$ millions		
Flour Milling	0.1–0.5	no est.	0.7–3.5	7	22
Shoes	0.14–0.5	0.5–2.5	0.5–2	7	110
Canned Fruits, Vegetables	0.25–0.5	0.25–0.5	2.5–3	7	73
Cement	0.8–1.0	2–10	20–25	7	1
Distilled Liquors	1.25–1.75	no est.	30–42	19	2
Petroleum Refining	1.75	1.75	225–250[b]	9	3
Steel	1–2.5	2–20	265–665	11	3
Metal Containers	0.5–3	no est.	5–20	20	n.a.
Meat Packing: Fresh	0.02–0.2	0.02–0.2	very small	—	11
Diversified	2–2.5	2–2.5	10–20	10	
Gypsum Products	2.5–3	27–33	5–6	21	2
Rubber Tires and Tubes	3	no est.	25–30	19	n.a.
Rayon	4–6	no est.	50–75[c]	20	n.a.
Soap	4–6	8–15	13–20	20	4
Farm machinery[a]	4–6	no est.	no est.	9	4
Cigarettes	5–6	15–20	125–150	23	2
Automobiles	5–10	no est.	250–500	23	2
Fountain Pens	5–10	5–10	6	14	4
Copper	10	10	no est.	23	n.a.
Tractors	10–15	no est.	125	17	n.a.
Typewriters	10–30	10–30	no est.	20	n.a.

[1]Percentage of U.S. Industry capacity contained in one *plant* of minimum efficient scale.
[2]Percentage of U.S. Industry capacity contained in one optimal *firm*.
[3]Total Capital required for one optimal plant (ca. 1951).
[4]Average percentage share of U.S. market of each of largest four firms, 1947.
[5]Number of largest Canadian firms accounting for 80 per cent of Canadian output, 1948.
a. Excluding tractors.
b. Including transport facilities. $193 million excluding transport facilities.
c. For Acetate. $90-135 million for Viscose.
Source: Bain (1954) Tables II, VI, VII and Rosenbluth (1956) Table A1.

one tenth and one-seventh of one per cent in the case of flour milling and shoes, to 15% and 30% for tractors and typewriters. Estimates of optimum firm size are not available for eight of his industries, and for six others they are the same as those for optimum plant size—there are no economies of multi-plant operation. In six industries, however, the optimum firm size also exceeds optimum plant size, usually by a considerable margin. (Note that economies in sales promotion are not taken into account in these calculations.)

Bain points out that his findings regarding the optimum size of firm are not as reliable as those concerning plant size: "Very great differences of opinion relative to the existence or importance of economies of multi-plant firms were frequently encountered in the same industry". (p. 29.)

The significance of a given optimum size of plant or firm depends, of course, to some extent, on the size of the "penalty" attached to operating at non-optimum size. Bain finds that in some industries, such as cigarettes and distilleries, costs for plants of less than optimum size are only slightly higher. In others, such as rayon and cement, costs rise steeply with smaller size of plant.

One might apply these findings to Canada by assuming that technical conditions are similar, so that the optimum size of plants and firms in absolute terms would be about the same. Since the market of a Canadian industry is, on the average, less than one-tenth the size of the corresponding American market, the percentages in Table VI, columns 1 and 2, would have to be multiplied by a factor of more than ten for Canadian conditions. It then appears that for all the commodities in the lower half of the table at any rate, technological efficiency requires very high concentration in Canada.

This is, of course, a very rough and ready procedure. Technological conditions are certainly not the same in Canada (if only because of the lower level of labour costs) although they are similar. Relative market size for individual industries varies considerably about the average. A more careful application of the American findings is possible, but not in the time allotted to the completion of this submission.

Nevertheless, our rough comparison serves to illustrate the point that the application of low cost techniques derived from the United States in the small Canadian market must involve high concentration in many industries, and that this concentration could be avoided only by using more costly methods of small-scale production. It should be stressed, however, that this generalization cannot be applied to any particular industry without careful study of the individual circumstances.

Bain uses the figures in column 4 of the table to investigate the question whether existing levels of concentration in the United States are "justified" by the requirements of the optimum size of plant or firm. The figures in this

column are essentially a concentration index, since they are derived from the usual American concentration index—(the percentage of output in the largest four firms) by dividing the latter by four.

Among the twelve industries for which an estimate of optimum firm size is available, Bain finds seven in which the actual level of concentration exceeds that "justified" by optimum firm size (i.e. the average size of the largest four firms exceeds optimum firm size) and five in which the actual level of concentration is "justified" (compare columns 2 and 4).

It so happens that the former group of industries coincides almost exactly with those for which no multi-plant economies are recorded, while the latter consists mainly of those having a higher optimum firm size than plant size. Bain does not offer an explanation for this phenomenon and it is hard to account for, but it may not be a coincidence.

An even more interesting feature of the findings, however, (which Bain does not mention) is that there is quite a high correlation between the level of concentration (column 4) and optimum plant or firm size in relation to the industry (columns 1, 2). Comparing optimum plant size with concentration for all 20 industries (columns 1 and 4) a rank correlation coefficient of +.76 is obtained. Comparing optimum firm size with concentration for the twelve industries for which the former is given (columns 2 and 4) a rank correlation of +.90 is obtained.

It would thus appear that even though the largest firms are often considerably larger than the minimum scale consistent with lowest cost, variation in concentration among industries can be explained very largely by variation in the size of the optimum firm in relation to the size of the industry.

This finding would appear to confirm Rosenbluth's conclusion, based on Canadian data, that variation in the *inequality* of firm sizes is of little importance in explaining variation in concentration. Over and above this, however, Bain's figures suggest that it is very plausible to regard the actual distribution of firm sizes as being generated by some random process that distributes them about the optimum size. The largest firms are generally larger than the optimum; but when industries are compared, differences in the size of the largest firms are related to differences in optimum firm size.

All these conclusions must be regarded as tentative, in view of the small size of Bain's sample. They are, however, very suggestive.

The point respecting a study of *mergers* as a useful clue to industrial concentration is raised repeatedly and a brief note on this approach is presented here.

A number of people believe that socially desirable economies are not likely to result where size or domination are achieved by merger and that

there is a case for trust-busting. This view appears to be reflected in the application of anti-trust laws both in Canada and in the United States.

This interest in mergers has led to the investigation (in the United States) of two questions relevant to this study.

(1) To what extent can existing levels of concentration be ascribed to growth by merger?

(2) To what extent are mergers *motivated* by a desire for monopoly power?

An inquiry into motives is, of course, not directly relevant to the present study, but it is indirectly relevant, since it helps one to understand the objective conditions which promote or discourage mergers.

Before describing the results of the studies, it might be well to mention some obvious points that are frequently forgotten in merger studies.

(1) The usual statistics regarding the number or total size of "large" mergers in each year (such as those collected by the Royal Commission on Price Spreads and numerous American studies) tell nothing about the effects of mergers on concentration. To judge this effect one must know *at the least* whether the mergers are "horizontal" or of a different type, their exact size distribution (before and after the merger) and the size distribution of all firms in the industry concerned.

(2) While mergers tend to increase concentration because they reduce the number of firms, they may produce the opposite tendency through reducing the inequality of firm size. These two effects may cancel out, in relation to a given concentration measure—e.g., the mergers of small automobile firms in the United States did not *per se* affect the percentage controlled by the largest three. In fact, while concentration measured in this way is unchanged, monopoly power may be reduced.

(3) While mergers of a type that increase concentration (e.g., involving the largest firms) are taking place, concentration may nevertheless be decreasing. This may be due to the offsetting effect of *new entrants,* or a decline in the non-merger death rate, or changes in the size structure of existing firms through *internal growth.*

(4) Since changes in concentration thus depend on a number of variables affecting the business population (of which mergers are only one) there is no unique way of measuring the effect of mergers on concentration. This point should be borne in mind in assessing Weston's findings discussed below.[29]

Weston studies the role of mergers in the growth of 74 "leading firms" in 22 manufacturing industries with high concentration. For each firm the increase in assets between an initial date (usually between 1900 and 1920)

[29]J. F. Weston, *The Role of Mergers in the Growth of Large Firms.* (California, 1953).

and the terminal date (1948) was divided into "growth by merger" and "internal growth". He found that, over-all, less than one-quarter (22%) of the total increase in assets of these firms was due to merger.

This figure illustrates the direct effect of mergers on the *absolute growth* of leading firms. The effect on *concentration* is more difficult to ascertain, and Weston had to confine his study of this matter to 25 firms in seven industries. He finds that most of these industries had as high a level of concentration or even higher at the turn of the century as in 1948.[30]

The question of motivation and favourable influence for mergers is capably reviewed by Markham, who concludes that while many of the high concentration ratios at the beginning of the century resulted from mergers, the mergers involved constitute only a minority of all mergers of that period.[31] There is no evidence that desire for monopoly was the dominant motive for the majority of mergers, nor that monopolization was a result. Markham stresses the desire for promoter's profit as an important factor, and notes an interesting result obtained by Weston.

When a time series of mergers is correlated with wholesale prices, stock prices and total output, it is found that stock prices are by far the most influential variable. A similar result is obtained in an unpublished study for Canada by Professor Weldon of McGill University.

[30]This result is on accordance with Nutter's findings reviewed above regarding the trend in concentration, but was obtained independently.

[31]See Markham, *op cit.*, pp. 141-213.

4

UNDERLYING INFLUENCES AFFECTING INDUSTRIAL PATTERNS

Even the necessarily limited examination of industrial concentration in Chapter III suggests certain developments in specific industries in Canada, in the United States and in the United Kingdom. These patterns invite consideration of forces influencing the shape of industrial development. While it is admitted that perspective tends to submerge detail and precision, nevertheless a panoramic view often aids in ultimate clarity of judgment.

At the outset it should be noticed that the 20th century concern with economic concentration has shown a marked bias towards the study of the concentration of *market* control in *manufacturing* industry. This is only a special aspect of the broader problem of the concentration of economic decision-making, whether in the hands of governments, business groups, or the personnel of administrative boards—over any or all sectors of economic life, including primary and service activities.

When the problem is viewed in the perspective of a long period of time, both the historical record and the interpretation of that record seem reasonably clear: concentration of economic power through group control of economic life is the rule, and the "free economy", or the administration of economic life by individuals, the exception. From the guilds and government decrees of classical antiquity, through the guilds and manors of the medieval period, and the guilds and governmental regulations of early capitalism, to the widespread governmental and administrative control of economic life in our present period, the record is continuous with but one major exception. Only in the late 18th century and the 19th century—and then only in a few countries, notably Great Britain—did society make the daring experiment of leaving the material welfare of its citizenry to the apparently unco-ordinated decisions of millions of individuals.[1]

[1]The "free economy" of the 19th century, even in Great Britain, witnessed tendencies toward market control by both trade unions and employer associations and also toward government regulation of working conditions in certain employments and government concern with the economics of the railway industry.

The bias of early societies to the control of economic life probably reflects political philosophy on the one hand, and the economic setting of these societies on the other. The desire of individuals to maintain and to improve, if possible, their standard of material welfare acts as a disruptive and centrifugal social force.

It is not surprising, therefore, to find in the historical record that governments, concerned with the problems of order, have considered it to be one of their main functions to exercise some degree of surveillance over the economic scene. In earlier societies this political preconception was clearly supported by the main economic factors in the environment. Markets were for the most part small and local, and therefore personal; production in all lines was small, scarcity a perpetual threat and abundance a matter of dreams rather than of experience. Food supplies in particular were the subject of worry alike to heads of families in the countryside and to governing authorities in the towns.

Conditions of chronic shortage on the supply side of markets on the one hand, and of inelastic demands on the other, provided potent reasons for control, both to ensure a minimum standard of productive efficiency and to prevent unreasonable exploitation of consumers. As production began to outstrip population, economic limits were relaxed and the purely market reasons for control became less compelling. But the political preconception that "the rich shall not eat out the poor" survived, and it was never completely devoid of economic rationale.

It has been only in the last two centuries or so that a portion of mankind could afford the luxury of a relatively free economy.

The contrasts between earlier periods and the 19th century, particularly in Great Britain and North America, speak for themselves. After 1800, economic growth on a scale never before experienced offered the prospect of abundance for the first time in history. Political sentiment underwent an equally revolutionary change: freedom on an unprecedented scale was accorded to individuals, and the main functions of government were reduced to those of internal policing and the conduct of external relations.

The idea that the public interest is protected by business competition derives from the classical school of political economy. The social philosophy of Adam Smith was, in the main, derived from John Locke. Essentially, Locke believed that society was atomistic; that it was an agglomeration of individuals who contracted together for the protection of their liberties and the prosecution of ends which could be achieved and enjoyed only communally.

Smith extended the concept of the atomistic political society to the national economy. His economic man was a self-seeking individual who pursued relentlessly his own advantage. The incentive for his activities was

private profit. Just as in Locke's polity the individual pursuit of happiness and liberty resulted in the harmonizing of conflicting rights by the social contract, so in the economy, Smith believed, the pursuit of private gain resulted in a natural harmony in the public interest. The "invisible hand" in Adam Smith's scheme was, in the final analysis, competition.

Smith and his disciples believed that competition among sellers would ensure that commodities would be sold at prices which just covered the full costs of production, that no profits would be earned in excess of normal wages of management and returns on invested capital, and that economic resources would not be employed in activities which brought in less than normal returns.

Smith and, after him, Ricardo and Mill were at great pains to show that interferences with the operation of "natural economic laws"—such as tariffs, bounties and other devices—reduced the total national real income. Smith, however, admitted that the maximum total real income was not the sole constituent of the public good and he justified the Navigation Acts on the grounds that, although they involved an economic loss, they were necessary for national defence.

Mill, too, justified trade unions on social and political grounds although he believed they constituted a monopoly element which interfered with the free operation of the competitive market.

Smith further believed that competition was the spur to economic progress and that only a society of freely competing individuals could ensure the improvement of real welfare. His disciple, Ricardo, however, did not share his optimism and believed that "natural law" would eventually produce a stationary society. We suggest that possibly Ricardo's pessimism was based on a neglect of the laws governing returns to scale.[2]

The classical tradition is sufficiently embedded in Anglo-Saxon economics that its very limited acceptance elsewhere is often overlooked. On the European continent the German historical school had much more influence; the development of German industry to a high state of efficiency by means of state planning, regulation and protection, as well as state-inspired combines and cartels profoundly influenced Continental thinking in favour of regulation, protection and monopoly.

The German concept of the public interest was, of course, different. German political philosophy rejected the idea of an atomistic society of individuals whose public interest was the sum of individual utilities and substituted the idea of an organistic society with objectives and ends uniquely its own.

Even in the United States, where lip service has been done the classical tradition, a degree of protectionist philosophy has ordinarily prevailed. The

[2]Compare, B. S. Keirstead, *Theory of Economic Change*, (Toronto, 1948), p. 125.

great American tradition of "trust-busting" was inspired more by the distrust evidenced in the division of power in the American Constitution, a distrust of any concentration of power, rather than by the idea of the classical political economy.

In Canada the political ideal of building an independent nation in the northern half of the continent has necessitated some modification of the classical ideal of a freely competitive economy and has justified the toleration of protection, governmental assistance to industry and some forms of monopoly.

Thus in few countries, other than 19th century Britain and Holland, has the classical laissez-faire ideal gained full acceptance. The concept of the national interest implicit in the classical theory is too narrow and too limited to exhaust, or even to represent, social ideals and objectives.

Nevertheless it is not denied that price competition, about which the classical economists were writing, does constitute some protection for the public against exploitative activities. It is not, however, enough to say in imprecise language that competition protects the public interest. One must define the exact kind of competition and show precisely in what way and through what routes this kind of competition operates in the public interest.

In a word: what is wanted is a set of objective and acceptable economic criteria for appraising the effect of any market structure, accurately defined, on the public interest.[3]

Superficially, the modern group control of markets by trade unions and various forms of employer groups in the 20th century suggests the economic control of the medieval guild, while the trend to government intervention in economic life which has been manifest since the First World War presents so many similarities to early modern capitalism that this period is often referred to by historians as the age of neo-mercantilism. Much of the modern centralization of economic power in governments has resulted from the disruptive effects of two world wars and a major depression within a single generation. Only the future will tell whether the effects on the concentration of economic power of these short-run events will persist in the absence of such disruptions in the last half of the 20th century.

Trends in Economic Concentration

The main trends in the development of economic concentration in Great Britain, the United States and Canada during this century will be reviewed very briefly in this section. Some of the factors which have been offered in explanation of these trends will be discussed in a subsequent section. An outburst of monopolistic organization in a number of important manufacturing industries during the last years of the 19th century and the early years

[3] See Chapter II.

of the present century marks the beginning of the modern movement to the concentration of economic control in all three of the countries under review.

In Great Britain, during the 1890's and the early 1900's, strong organizations emerged in the salt, cement, thread, cable, distilling, textile finishing, soap making and many other industries, and many of the organizations which have since dominated their respective markets date from this period. At about the same time a number of the important branches of retail trade, including those in books, cycles, drugs, groceries, hardware and tobacco, organized to control their respective markets by pressing manufacturers to institute resale price maintenance.[4]

Economic mobilization during the First World War led to further concentration of control throughout industry. Trade associations in particular "multiplied rapidly during the war when the government encouraged their formation to facilitate the equitable distribution and economic utilization of raw materials, to control output and prices, and to perform the many other functions incidental to war-time control.[5] The strong and increasing tendency throughout British industry toward concentration of economic control was commented on by the Standing Committee on Trusts, an agency of the Ministry of Reconstruction in 1919, and again by the (Balfour) Committee on Industry and Trade in 1929.[6]

Another dramatic result of the government's war-time economic experience was the reversal of the traditional British policy of fostering competition among railways: by the Railway Act of 1921 some 120 British railways, including all the principal lines, were formed into four large concerns.

The 'thirties in Britain witnessed both a continuation of the trends of the 'twenties in economic concentration and market control and the emergence of a new feature of the utmost significance, namely, the promotion of economic concentration by the state. The most novel feature of this new turn of affairs was the development of market control in agriculture which until then, apart from various experiments in co-operative marketing which had met with little success, had been untouched by the centralizing movements characteristic of other sectors of the economy.[7] Acts in 1931 and 1933 promoted marketing boards which resulted in centralized marketing schemes for hops, potatoes, pigs, bacon and milk (where there had been privately organized regulation of marketing since the early 'twenties). Of greater importance were the schemes, either actively promoted by the government or carried through with its blessing, for comprehensive "rationalization" of the

[4]See particularly B. S. Yamey, *The Economics of Resale Price Maintenance* (London, 1954), Ch. VII.

[5]A. F. Lucas, *Industrial Reconstruction and the Control of Competition*, (London, 1937) p. 202.

[6]*Ibid.*, pp. 18-19.

[7]Government support of agricultural marketing schemes and agricultural protectionism after 1931 represented a reversal of British agricultural policy. Since the 1870's British agriculture had been forced through an extensive readjustment by the growth of overseas food imports, but during this period the farmer was almost completely abandoned by the state. "British agriculture is dead" a high official of the Board of Agriculture was heard to say, "and the business of the Board is to give it a decent burial." Sir John Russell, *World Population and World Food Supplies* (London, 1954) p. 5.

basic British industries of coal mining, iron and steel, shipbuilding, cotton and flour-milling.

The extent to which the free-pricing system in Britain has been superseded by group control over economic life since 1939 is a matter of general knowledge and therefore requires little comment. Wartime conditions had their customary effect of promoting and strengthening economic control by private organizations, and in the postwar period important sectors of British economic life have been nationalized.

In agriculture conditions which marked the beginning of centralized economic direction during the 'thirties reached culmination during the war and since that time agricultural planning has been continued at almost its wartime level and intensity. "In a period dominated by a shortage of food," writes the historian of these years in British agriculture, "British farmers have obtained a legally assured market for all their output, at prices which were insulated from the equivalent prices of imported foods and from the retail prices at which consumers bought".[8]

The modern history of trusts and other unified forms of economic concentration in the United States begins with a spectacular, but quantitatively rather small, trust movement in the decade and a half after 1880. The first Standard Oil Trust, formed in 1879, was the "bell-wether" of the flock. It was followed by important concentrations of control in sugar, beer, whisky, lead, rubber, tobacco and electrical equipment, but in retrospect the consolidations of the period "barely attained to the dignity of a movement".

It was quite otherwise with the movement which started in the middle 'nineties and ran through the early years of this century: "The fervour with which it was entered upon and the gigantic proportions which it soon assumed make it one of the most significant chapters in the business history of the United States."[9] A list of the important industrial consolidations in the United States from 1890 to 1904 shows 47 formations from 1890 to 1896, and 190 from 1897 to 1904. The peak year was 1899, with 78 consolidations having a combined capitalization of over $1,750 million; the most drastic consolidation was the formation of United States Steel in 1901 with a capitalization of nearly $1 billion.[10]

These two early movements brought public reaction in two forms. The first period brought a number of anti-trust Acts by individual states and the Sherman Act of 1890 by the federal government, while the second period was followed by President Theodore Roosevelt's energetic "trust-busting" campaign after 1903. Furthermore the investing public, whose gullibility had fanned the flames of the movement around the turn of the century,

[8]E. H. Whetham, *British Farming 1939-1949*, (London, 1953) p. 147.

[9]H. R. Seager and C. A. Gulich, Jr., *Trust and Corporation Problems*, (New York, 1929), p. 60.

[10]See Myron W. Watkins, *Industrial Combinations and Public Policy*, (Boston, 1927), Appendix II.

underwent a revulsion against trust securities, which fell heavily in value during 1902-1903. "The trust movement as a movement was over,"[11] but the public had locked the stable door after the horse had been stolen; by 1903 "a substantial proportion of the large-scale manufacturing and mining industries of the country had been drawn together into combinations of a more or less permanent character".[12] Corporate developments in the "big" industries since the early years of the century have, in the main, consisted of reorganization of existing consolidations, and of the formation of consolidations in new industries such as automobiles, radios, chemicals and aluminum.

In "small" industries where for one reason or another it appeared to be impracticable to form trusts, holding companies or mergers, concentration of economic power took other forms. Pooling agreements, the American equivalent of German cartels, antedated the trust movement, and were widespread during the last quarter of the 19th century. They were particularly important in salt, whisky, coal and various fabricated iron and steel products. By the end of the century they had incurred great public disfavour and a Supreme Court decision of 1899 clearly brought them within the orbit of anti-trust legislation. Thereafter they were dissolved or went underground. They have been partly replaced by a great extension of trade associations during this century.

Appraisal of the role played by trade associations in the concentration of economic power is always difficult because they vary in degree and kind and in many instances encourage practices which—since they improve techniques in industry—are clearly in the public interest. These practices are, of course, the activities stressed and publicized by the associations themselves.[13] It has been suggested that by the 'twenties trade associations had become "the most important contemporaneous form of combination in the United States".[14] Market control in retail trade proceeded by way of resale price maintenance agreements. The early history of these agreements in the United States does not appear to have been very well chronicled, but the practice was sufficiently widespread to be one of the objects of attack by the Federal Trade Commission when it was created in 1914.

During the last quarter century the two striking features of concentration of economic control in the United States have been the same as those in Britain: *de facto* government sanction and encouragement of market control

[11] Seager and Gulick, *op. cit.*, p. 63.

[12] *Ibid.*, pp. 66-7.

[13] The study of trade associations is even more difficult in the United States, where they are considered extra-legal institutions whereas in Great Britain they have enjoyed legal status. See Lucas, *op. cit.*, pp. 204-6. Difficulties of appraisal of trade associations in the United States are concisely stated in Watkins, *op. cit.*, p. 36 and Note. For an account which highlights their constructive activities without ignoring their monopolistic aspects, see Seager and Gulick, *op. cit.*, Ch. XVI. See A. R. Burns, *The Decline of Competition*, (New York, 1936).

[14] Seager and Gulick, *op. cit.*, p. 453.

by producer associations, and the extension of techniques of market control to agriculture.

World War I led to active governmental encouragement of trade associations.[15] Encouragement by the government to agricultural co-operatives, especially their "orderly marketing" schemes, and encouragement to combinations of exporters, in the 'twenties,[16] contrasted with an extension of the anti-trust policy in secondary industry during the same period. The culmination of government support to the greater rigidity of virtually every sector of American economic life by the New Deal policies of the 'thirties is so well known that it requires only mention here.

NIRA codes greatly strengthened and extended trade associations as the chief means of industrial control, and the means, somewhat ironically, became a lasting effect of the programme which itself was subsequently ruled to be unconstitutional.

In retailing, resale price maintenance agreements were legalized in inter-state trade, as they had already been legalized in intra-state trade by most state legislatures.

In transportation the Motor Carrier Act of 1935 brought inter-state trucking under federal legislation; the minimum rate and restriction of entry features of this regulation have encouraged monopolistic associations in this field and have therefore probably denied the consuming public some of the benefits of the internal combustion engine.[17]

In agriculture, the AAA Acts have, both directly and indirectly, made Congress rather than the market-place the locus of economic control in the most important branches of American farming.

Early complaints of monopolistic practices in Canada were associated with tariff policy. Even before the National Policy of 1879 there were charges in Western Ontario that the tariff was a breeder of monopoly, the chief complaint being directed against the duty on petroleum.[18]

Farmer opposition to the National Policy crystallized in the 1880's after being muted for awhile by the "increased home market" argument which was designed to persuade the farmer that he had a "stake in protection". Thereafter charges multiplied that monopolistic rings and pools were being sheltered by protective tariffs.

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[15] *Ibid.*, p. 306.

[16] See C. W. Wright, *Economic History of the United States,* (New York, 1949), pp. 483, 566. Also Chester C. Davis, "The Development of Agricultural Policy since the End of the World War", *The Yearbook of Agriculture 1940,* United States Department of Agriculture.

[17] Locklin and Nelson, United States National Resources Planning Board, *Transportation and National Policy,* (Washington, 1942).

[18] See O. J. McDiarmid, *Commercial Policy in the Canadian Economy,* (Cambridge, 1946) p. 142; H. A. Innis and A. R. M. Lower, *Select Documents in Canadian Economic History 1783-1885,* (Toronto, 1933) pp. 572, 575; L. A. Wood, *History of Farmers' Movements in Canada,* (Toronto, 1924).

A House of Commons Committee in 1888 received complaints of combinations in a number of trades and an Act for the suppression of combinations was passed in the following year.[19]

In the last decade of the century notable consolidations occurred in the important industries of cotton textiles and agricultural implements,[20] while industry, the prewar period also witnessed a trend to vertical integration in Scotia and Ontario. For the most part, however, the main movement to the "trustification" of Canadian industry came in the decade before the First World War, thus lagging somewhat behind the American movement.

In addition to mergers and financial consolidations in manufacturing industry, the prewar period also witnessed a trend to vertical integration of the iron and steel industry, and the formation of new price agreements and marketing pools in the field of trade.[21] The legislative reflection of this period of economic concentration was the passage of the Combines Investigation Act of 1910.

The Royal Commission on Price Spreads which reported in 1935 provides much information on the second great period of consolidation in Canadian business during the 'twenties. This second phase of the movement, which reached its peak in 1928 and 1929, was on a larger scale than the pre-war movement in terms of numbers of consolidations.[22] Many of the most important Canadian industries, however, had been "trustified" in the earlier period: concentration of control in the pulp and paper industry and a holding company movement in the hydro-electric industry were important features of the second period, but the most numerous consolidations occurred in a wide variety of smaller industries.

The history of the more hidden forms of concentration of market control in Canada, especially control by way of trade associations and resale price maintenance agreements, has not yet been written. The leading students of restrictive practices in Canada assign considerable weight to trade associations as a means of control,[23] and the effect of the two wars during this century was in the main to strengthen trade associations in Canada as well as in Great Britain and the United States.[24]

[19]See McDiarmid, *op. cit.*, pp. 189-190. A tariff Act of 1897 supported the anti-monopoly policy by empowering the Governor-in-Council "to place on the free list any commodity which was found, by a superior court judge, to be sold under monopolistic conditions", *Ibid.* p. 207. This early anti-monopoly policy apparently had little success.

[20]*Ibid.*, pp. 200. 249.

[21]*Ibid.* p. 243-4; M. Q. Innis, *An Economic History of Canada*, (Toronto, 1943) pp. 287-8. The movement received notice and innocuous comment in the *Report of the Board of Inquiry into Cost of Living*, (Ottawa, 1915), Vol. I, pp. 26-30.

[22]*Royal Commission on Price Spreads* (Ottawa, 1935) pp. 13-46, especially p. 28. Many of the consolidations were promoted mainly for financial, as opposed to economic reasons: results in terms of profits were "no better than amongst business as a whole, and . . . in all probability, considerably worse," and mortality rates were high. (*Ibid.* p. 32).

[23]See especially L. G. Reynolds, *The Control of Competition in Canada* (Cambridge, 1940), pp. 12-21; also V. W. Bladen, *An Introduction to Political Economy* (Toronto, 1951), pp. 206-8.

[24]See *Report of the Royal Commission on Prices* (Ottawa, 1949) Vol. II, p. 251.

Resale price maintenance has probably been less widespread in Canada than in Great Britain. Nevertheless the practice was noted and condemned in a number of investigations under the Combines Act, especially in the 'twenties, and the committee to study combines legislation in 1951 stated in an interim report on resale price maintenance that "the practice is, at present, extensively applied and of growing importance in Canada".[25]

Canada was not quite immune to the government-sponsored trend to economic concentration during the depression of the 'thirties.

The stage for a small-scale "New Deal" in Canada was set by the Price Spreads Commission which, in fact, concerned itself more with the problem of maintaining than of reducing profit margins. After a very clear and perceptive account of the economic complexities and political dangers of government regulation of "unfair trade practices" the majority report proceeded immediately to recommend government interventions in economic life which the commissioners realized might eventually become "far-reaching" and "drastic".[26]

The main feature of the subsequent legislation to establish a Trade and Industry Commission and to set up marketing boards for natural products was declared unconstitutional in 1936. Most of the marketing schemes initiated under the Natural Products Marketing Act of 1934 were carried on, however, under provincial legislation in Ontario, British Columbia and New Brunswick. The schemes thus inherited from the federal Act related to fruit and vegetable producers in British Columbia, where co-operative marketing had previously been well developed, and to a few specialized products in the eastern provinces.

Of greater general importance were the milk marketing schemes which were set up in all provinces during the depression.[27] The federal government has supported agricultural marketing schemes by agricultural marketing Acts in 1939 and 1949. The main legacy of the Canadian "New Deal" in industry and trade was, like its prototype in the United States, to strengthen private organizations of the trade association type.

The depression years also led to the government's becoming committed to the marketing of western wheat, following the collapse in 1930 of the privately-organized wheat pools which handled much of the prairie crop in the late 'twenties. Since the last war government intervention in agriculture has been provided for on a large scale by the Agricultural Price Support Act of 1944 and later supplementary legislation. Apart from the case of

[25] *Report of the Committee to study Combines Legislation* (Ottawa, 1952), p. 57. Resale price maintenance was legalized in British Columbia and Alberta by Acts in 1936 and 1937, the Albertan Act being repealed in 1939. See Reynolds, *op. cit.*, pp. 217-21.

[26] *Royal Commission on Price Spreads, 1935, op. cit.*, p. 264. The inconsistency was noted in reservations by three members of the Commission and in a minority report by another.

[27] See Reynolds, *op. cit.*, pp. 221-241.

western wheat, however, government support to and control of agriculture has been on a smaller scale in Canada than in the United States or Great Britain.

Interpreting the Trends

In interpreting the trends outlined above, a good many students consider the simple principle of profit maximization[28] to be the best, and indeed an adequate, general explanation of the phenomena. Various other explanations which throw additional light on the matter invite brief review.

Some economic theorists have been predisposed to stress *economies of scale* as a factor promoting large firms and possibly economic concentration. If it could be adequately supported, the proposition could suggest the inevitability of increasing monopolization of industry in democratic societies. Though this argument has no *general* validity, the empirical evidence referred to in Chapter III supports it as applied to particular industries. "Largeness", of course, must be construed as relative to the size of the market, which in turn is a function of transportation, technology and tariffs, among other things.

It can hardly be seriously maintained that there are many industries where the optimum size of firm is so large that American markets could support only two or three firms. On the other hand, it is clear that the much smaller Canadian markets, almost by definition, result in concentration of control in many manufacturing industries.[29]

Even in very large economies the "economies of scale" argument is, of course, appropriate to the traditional "public utility" industries, where fixed costs are a high proportion of total costs and where markets are rather definitely circumscribed by technological limits on the transportation of the services provided.

Students of the institutional side of economic life find various specific explanations for trends in the concentration of economic power and for differences in these trends over space and time. Let us pass the most important of these explanations in review. In the nature of the case, of course, they vary considerably both as to conclusiveness and generality.

There is continuing discussion of the question of the relationship between *business cycles* and concentration movements in the economy. Both theoretical expectation and historical research suggest that the traumata of de-

[28]By adding to the maximizing principle the phrase "in the long run" it can be extended to cover the desire to maximize the "security" of the firm and its administrators. Practices that are deemed to promote long run maximization of profits may be repugnant to the short run maximization of profits. If the long run version of the axiom is adopted the conclusions of economic theory can therefore not be considered very reliable in the explanation or forecasting of short run events.

[29]See the very careful and thorough statistical study by G. Rosenbluth, "Industrial Concentration in Canada and United States", in *The Canadian Journal of Economics and Political Science*, August 1954, pp. 332-346, especially pp. 335-7. Cf. also the statistical evidence in Ch. III above.

pression times are a powerful motive for some merger form of concentration. On the other hand, the desperation price-cutting characteristic of deep depression periods make it difficult to arrange for and enforce the looser forms of economic combinations, while depressed security prices inhibit the formation of the more unified forms of business organization.

An eclectic position seems to be appropriate in this case, namely, that movements to economic concentration tend to be characteristic of the recovery phase of "depressions" and the upward phase of "prosperity". An exception must be made for government-supported movements to economic concentration. As already noted above, the movement toward economic concentration made enormous strides during the depressed 'thirties: government support overcame the disabilities of private enterprise in making such arrangements during a depression.

Tariff policies of governments bear an obvious relationship to the feasibility of monopolistic organization in industries subject to actual or potential import competition. The free trade policy of Britain for some 70 years after 1848 is generally conceded to have been a potent factor in restricting the development of economic concentration in Britain. It did not prevent the trade association type of organization, the development of resale price maintenance on a large scale in retailing, or the consolidation movement in domestic industries at the turn of the century. Neither did it prevent market control in export industries or in industries in which international cartels offer the private equivalent of protection.

Despite these qualifications it is apparent that import controls were a prerequisite of the monopolistic schemes in agriculture and in the iron and steel industries in Britain during the 'thirties. It is apparent that the American tariff has supported concentration of control in manufacturing industry in the United States. It is also apparent that the concentration of economic power in American agriculture has involved state support for the provision of a differential between world and domestic prices for agricultural products over most of the last twenty years. It has also involved recourse to export dumping when the resulting surplus stocks of storable products became embarrassing. Finally, it appears that concentration of economic control in Canadian manufacturing industry is related in many ways to the Canadian tariff.[30]

Public opinion, legal attitudes and anti-trust policies of government have borne an uneven relationship to economic concentration. In Great Britain the public has generally taken a complacent view of monopoly and the

[30]The effects of the Canadian tariff are not always in the same direction. By giving American and British firms an inducement to establish branch plants in Canada it has sometimes acted to increase competition in Canadian industry. A specific example is given in McDiarmid, *op. cit.*, p. 353: "Since the tariff was largely responsible for the establishing of the Canadian branch of International Harvester in 1903, and since that firm has been an important factor in maintaining what competition exists in the (agricultural implement) industry in Canada, it would be difficult to support the thesis that the tariff has been a monopoly breeder in this industry." See also Ch. V.

law, both statute and common, has been more tolerant[31] of restraint of trade than it has been in the United States. The 1948 Monopolies Act is the first British statute designed to curb monopolistic activities since the Statute of Monopolies of 1624, and even it is exceptionally mild and circumspect in its approach to the problem.

As to the common law, 20th century English practice has impressed American students as being very much more tolerant of restraints of trade than American practice.[32] It is doubtful, however, whether the difference in law has had any clear reflection in economic trends in the two countries except in the field of resale price maintenance which, condoned by English courts,[33] has been more prevalent in England than in the United States or Canada.[34]

Government promotion of monopolistic practices in the 'thirties was probably accepted with fewer qualms in Great Britain than in the United States, but for the rest, the general economic background of the two countries has been so different that it is unprofitable to try to isolate the effects of the legal factor in their histories of trade restraint. American anti-trust legislation has undoubtedly been effective in some respects, particularly in curbing fraudulent commercial practices, and it can even be argued that the trend to private concentration of economic power has been substantially dampened down by legislative enactments.[35]

In a broader view, however, the similarities between economic concentration in Great Britain, the United States and Canada (where the legal approach to the problem has been somewhere between British and American practice) greatly outweigh the differences.

Geographical factors, railroad development, and, more generally, access to the means of production have all been closely related to the concentration of economic power at different times and places. In Canada, the location of hydro-electric resources and proximity to American coal supplies has favoured the geographical concentration of manufacturing industry in Ontario and Quebec and this, coupled with Canadian tariff policy as well as geographical factors, has given their industries a monopolistic position in the prairie market.

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[31]During the latter part of the 19th century, of course, monopoly was really no problem in Britain, and even the combinations at the turn of this century affected only a relatively small part of the economy. See W. H. B. Court, *A Concise Economic History of Britain,* (Cambridge, 1954), pp. 210-216.

[32]See Lucas, *op. cit.,* pp. 11-13, 347-357, esp. p. 352, where he writes: "Now a layman unfamiliar with the intricacies of British common law must speak with caution. Yet it would seem that the avowed policy of the common law not to lend the support of the Courts to the enforcement of restrictive contracts finds little reflection in actual practice at present, whatever may have been the situation in the past. The common law actually views monopoly not only with no observable repugnance but with extreme solicitude. Nearly all of those practices proscribed by the various anti-trust statutes of the United States as 'unfair competition' have been expressly approved by the English Courts . . ." See also Watkins, *op. cit.,* p. 236; Seager and Gulick, *op. cit.,* pp. 597-604.

[33]Seager and Gulick, *op. cit.,* p. 601.

[34]Yamey, *op. cit.,* p. 106.

[35]See Wright, *op. cit.,* pp. 565-567.

By contrast, it has been argued that the geographical dispersion of resources and the relative compactness of the country have been two of the main safeguards of competition in Great Britain.[36]

Railroads, themselves constituting an industry where economies of scale have always created a strong bias to regional monopoly, have had differential effects in the promotion of concentration of economic power in other sectors of the economy. In the United States early railway practices of rate discrimination between shippers—a situation which was brought under control only following a series of Acts between 1906 and 1910 which strengthened federal regulation of the railways—constituted an important factor in the development of concentration of economic power in a wide variety of American industries.

The foremost student of the subject wrote in 1912 that personal discrimination by railways in the United States "has probably had more to do with the creation of great industrial monopolies than any other single factor. The first feature of any reform of our intolerable 'trust' situation must be to keep the rails open on absolutely even terms to all shippers, large or small."[37]

The problem of personal discrimination by Canadian railways was never serious, although overtones of the practice were present in the differential treatment accorded to shippers of grain from elevators and from loading platforms in the early period of grain shipments from western Canada.

In Great Britain, where shippers were well entrenched before the railway appeared on the scene, discrimination was unknown. Railways in Great Britain, by breaking down local markets, exerted a strong and unequivocal force making for a more competitive economy.

Varying degrees of access to various means of production, like differential privileges in railway rates, have often been a factor leading to monopoly. The "grab" of American natural resources, particularly forest and mineral resources, by the so-called "Robber Barons" was one route to special economic privilege in the last decades of the 19th century. The consequent control over known resources of minerals has been in the present century an important contributing factor to the exercise of control of their markets by certain metal fabricating industries.

Differential access to liquid capital also plays its part in economic concentration. Many of the larger trusts in the United States were promoted by large private investment bankers, while it has been remarked that in Britain control of firms by local bankers has contributed in the past to the small scale and "extreme parochialism" of British firms.[38]

[36]Lucas, *op. cit.*, pp. 338-9; A. P. Usher, *A History of Mechanical Inventions*, (New York, 1929).

[37]W. Z. Ripley, *Railroads*, Vol. I (New York, 1913), pp. 188-9.

[38]Lucas, *op. cit.*, p. 21.

Similarly, differences in legal privilege, especially incorporation, have had their reflection in the concentration of economic power; Seager and Gulick contrast the single, fairly strict, corporation law in England with the situation in Canada and in the United States where different states and provinces vied with each other in passing different corporation laws which facilitated various forms of business combinations.[39] As to access to new techniques, it is well known that patents can be abused to build up and maintain monopolistic positions.

Factors for the Future

At the end of this review of the factors which have been important in the formation of concentrations of economic power, it may be useful to speculate briefly on some current and prospective factors which may prove to be influential in the future. It has often been suggested that 20th century technological trends should favour a trend to smaller sized plants. In particular, the truck as opposed to the locomotive and the electric motor as opposed to the steam engine are decentralizing factors.

The truck, it is argued, provides flexible transportation facilities in that its area of operation is not fixed. Electric power from central stations has obviated the necessity for a producer to supply his own power plant; and, by thus reducing the investment necessary to establish a manufacturing plant, it has made for easier entry and a wide variety of industries.

Although it is difficult to measure the effect of these trends, it is submitted that the above argument is correct as a statement of tendency. Indeed it can be argued that the tendency has become fairly marked in the postwar period and that its previous failure to show up clearly is explained by the "freezing" effect on industry of a decade of depression and six years of war.

If atomic power can be made competitive with steam or hydro electricity, it may mean the establishment of industries in regions at present deficient in manufacturing, and this geographic decentralization of industry would no doubt work in favour of a reduction in the present concentration of economic power in industrially-favoured regions. Automation—to mention another future prospect—will apparently increase capitalization and by emphasizing economies of scale should be expected to increase the size of plant and accentuate economic concentration. On the other hand, automation will probably affect most directly those industries where scale is already large and concentration of power already fairly high.

It should be clearly recognized, however, that the above comments refer to *plants* and that even if technology should be expected to favour a competitive economy in terms of plants the same conclusion cannot be simply

[39]Seager and Gulick, *op. cit.*, pp. 597-8 and Ch. XXVII. For a brief discussion of the problem of divided jurisdiction in Canada, see *Report of the Royal Commission on Price Spreads* (Ottawa, 1935), p. 39.

restated in terms of *firms*. To a certain extent, of course, factors which make for smaller scale plants, by reducing the investment required to set up in manufacturing will promote smaller, and therefore more, firms. But it is also possible that smaller scale plants will simply mean branch plants and the growth of multi-plant firms. The considerations relating to the prospective future size of *firms* are different from those relating to prospective trends in the size of plants, and are more difficult to assess.

On the one hand, modern study of business administration may very well increase the administrative capacity of a given amount of "management" and thus make for larger firms. On the other hand, the prospect for large and rapid economic growth in Canada is a prospect for a more competitive economy. This is because there seems to be a rough historical correlation between expansion and competitive enterprise, and more directly because such expansion should reduce the almost arithmetical relationship between a small economy and few firms per industry.

A broader capital market and improved facilities for the financing of small firms would also make for competition and allow a larger number of entrepreneurs to take advantage of whatever technological tendency to the small plant modern conditions afford.

5

POSSIBLE AND PROBABLE TRENDS IN INDUSTRIAL CONCENTRATION IN CANADA

It has been suggested by the Commission that an attempt be made to estimate the probable future trends in industrial concentration in Canada. One of the things this study revealed was the inadequacy of statistical evidence for this purpose. The studies available at present do not tell us about past trends so that statistical extrapolation is not permissible. The difficulties of obtaining statistical material are noted above. The inescapable conclusion at this point is that the available evidence is far too sketchy to justify the firmness and even dogmatism with which opinions on this controversial subject are maintained.

The evidence, statistical and historical, suggests *but does not prove* the following propositions:

A. The existence of a free, competitive economy with numerous small units engaged in active price competition during the 19th century was—from an historical perspective—a peculiar, unique historical phenomenon. Events towards the end of the 19th and into the early years of the 20th century, led to the formation of larger scale plant and firm units and the increase in industrial concentration.

B. During the present century the trend towards larger scale of plant formation has continued in some industries; and consolidations, resulting in larger scale of ownership, in the main, have been associated with "boom periods" on the stock market. But no general trend towards a higher degree of industrial concentration can be distinguished. This suggests that markets have increased *pari passu* with amalgamations, and that new firms have appeared.

C. In Canada, because of the much smaller market, geographic differentials, the necessity to provide Canadian consumers with American-style goods and to compete (with some tariff protection) with American industry, the tendency has been towards a higher degree of industrial concentration than in the United States.

D. Generalizations about industry as a whole, such as the above, are not valid when applied to particular industries. Some industries appear to show a movement away from high concentration, while others evince a continuing trend towards higher concentration.

Concentration at the Turn of the Century

It may be suggested (regardless of method of measurement) that concentration of economic power in certain branches of manufacturing—that is to say, in those industries where there were relatively few firms—took place on a large scale in the closing years of the 19th century and the early years of the present century and was virtually completed to its present stage by 1929. In many of these industries concentration appeared to be possible and desirable by virtue of economies of scale. In some others, and particularly where consolidations had a "stock market" flavour, economies of scale were probably less important than considerations such as control of product distribution, and even corporate fashion.

In certain other industries where large numbers of firms made unified administration impracticable, concentration of control took the form of "pools" or "rings" in the 19th century, and of control by trade associations and resale price agreements in the 20th. In the nature of the case the detailed history of these forms of market control is very imperfectly known. It is known that, within the genus, individual associations and price maintenance schemes are often short-lived because of the difficulty of enforcing sanctions against parties unco-operative to them. It is likely, too, that restrictive practices vary widely from one association to another, and from one phase of the business cycle to another.

One should not conclude from these generalizations, however, that these forms of market control in certain sectors of modern economic societies are either "bad" or "good" in the business structure. "Weak" forms of concentration can be irresponsible both because they are hidden and because they relate, individually, to very small parts of the economic structure; while, to some extent, "strong" corporate concentrations of power may be led to act with restraint by the glare of publicity and by an awareness of their importance in the whole economy.

A thorough review of the literature which a study of this nature invites, leads to the view that *the problem of the concentration of economic power is as wide as the problem of political economy itself.* It raises in concrete form

the whole problem of the relationship of the state to economic life and, beyond that, of the relative values that a society places on such things as standard of living, security and practicable amounts of freedom or individual determination of one's lot. Any more restricted view of the problem, it is suggested, is a partial view.

We believe the main issues in the problem can be raised by brief reference to its economic and political aspects—these issues will be "solved" by the inexorable pressure of public opinion, and by no other agency.

First, economic theory proves, by the surest method we possess—deductive reasoning—that a perfectly competitive economy produces greater wealth, and therefore a higher standard of living, than other systems of economic organization. But this conclusion is subject to qualification. It is based on certain assumptions that do not exist in the institutions of the real world, such as perfect knowledge of markets, complete absence of any group economic behaviour, and a technological setting which makes the optimum size of firm small when related to the area of the market.

But despite the lack of a perfect "fit" between assumptions and reality, the practical significance of the economic principle remains. If the highest possible standard of living is desired, the State should press hard for the greatest possible degree of competition and should tolerate monopoly only when there are compelling reasons for doing so, and then only under public regulation.

In the second place it has been said that concentrations of economic power lead to concentrations of political power.[1] In its most extreme form the criticism of private concentrations (as contrasted to public or publicly-inspired concentration) is that they create a state within a state—that they exercise coercive economic power over consumers and that, with the present infatuation of business with "public relations", they unduly influence public opinion and the sources of public information.

The main criticisms of government-supported concentration of economic power are that such concentrations contribute to "government by pressure groups" and raise nasty problems of government enforcement of monopolistic restrictions which, to say the least, are embarrassing to democratic governments.[2] On the other hand, concentration of economic control, whether under private or public auspices, can be justified—and often is—on the basis of "orderly marketing", more responsible administration of economic affairs and, in general, a dampening down of those centrifugal and powerful economic forces which, if unbridled, constitute a threat to political order.

[1]But on the other hand consider J. K. Galbraith, *American Capitalism: The Concept of Countervailing Power*, (New York, 1952).

[2]The commentary on this point by A. F. Lucas, *Industrial Reconstruction of Resale Price Maintenance*, (London, 1937) pp. 87-88, 259-260, 290-291, is interesting.

State control or regulation of economic life—an intervention which, as we have seen, often leads to an increased centralization of economic decision-making—is most frequently justified on the basis of providing greater security to groups in an inherently weak bargaining position.

Some Cautious Generalizations

The analysis in the previous chapters permits one or two speculative generalizations about the future. These are advanced with caution.

First of all it is suggested that the world trend seems to be against the free price mechanism. Governments everywhere are once again intervening to regulate economic behaviour. Even as this submission is being prepared the Ontario Federation of Agriculture has presented a statement to the press in which, according to press reports, it explicitly adopts the philosophy that the state must act to preserve a balance in economic welfare among the different producing categories in the national economy. As it has been suggested in Chapter IV, we seem to be moving into a world of "neo-mercantilism".

Nevertheless, despite world trends, it is probable that certain countries, including Canada, will retain during the next 25 years at least, the free price mechanism as a fundamental, though no doubt modified, institution of the national economy. Thus, though government may increasingly come to provide certain services now provided by private enterprise, and though government may intervene more and more in the regulation of what are and what may come to be public utilities, and though government may continue to regulate and influence the prices of agricultural products, it is expected that a large sector of the economy will continue to operate free of direct government intervention.

In the second place, it can be anticipated that in the free sector of the economy there will be a diminution rather than an increase in the degree of industrial concentration. This view is advanced on the ground that Canada is undergoing rapid growth both in terms of population and in terms of industrial activity, and that evidence is mounting to suggest a continuing growth phase although some cyclical variations in the rate of growth may well occur. If the market continues to grow even at a somewhat reduced rate, even though some industrial consolidations continue to occur, the growth of the market and the probability of new entries into the market well might diminish the degree of concentration.

In the third place, it is also probable (given Canada's interest in free world trade) that in the immediate future as in the immediate past, Canada will continue to advocate and to practise liberal commercial policies. This point is developed later in this chapter.

In the fourth place, it is suggested that if what has been said above is true about industry as a whole, it well may be irrelevant to any particular industry. It can be expected that in some industries new techniques will create economies of scale which will lead to a larger scale of formation, that in other industries opportunities for reducing costs or reaping greater profits from consolidation will occur to aggressive entrepreneurs, that they will take advantage of these opportunities and their action will increase the degree of concentration. It may be expected that other industries will attract new venture capital as the market expands and that, on the whole, the next 25 years will be not unlike the last, with increases in concentration in some industries, and diminutions in others.

Partisan Views

Throughout this submission there has been an awareness that discussion tends from time to time to gravitate towards matters of topical controversy in which opinions, one way or another, appear to be held with intense conviction and even strong emotional partisanship. The position taken has been that evidence available to detached observers does not justify the conviction with which opinions on one side or the other are maintained.

At this point it appears, in the light of existing convictions or predilections, that before commenting on the way public policy might affect future trends in concentration, findings and opinions on the major controversial points should be set out for the Commission in brief summary form.

The "antagonists" in this debate may be defined as follows: On the one side there are those who believe that increases in the size of the firm never bring advantages to be passed on to the general public; that they lead usually to increases in the degree of concentration of industry; that such increases in concentration always result in a diminution of competition and that any diminution in competition is detrimental to the public interest. This school of thought we have identified as the "anti-trust" school.

On the other side is what might be called an odd alliance of "big business" and theoretical economics of the Schumpeter and Harrod variety. These have all maintained—though with quite different overtones about the appropriate remedies—that the fundamental cause of increased concentration lay in economies of scale both of plants and firms, that such increases in optimum economic scale led to unstable competition and that it was quite impracticable to attempt by legislation to prevent a natural economic process. Moreover, some members of this school—which for convenience may be called Schumpeterian—claim to see public advantages from the trend, believe that abuses of concentrated economic power can be controlled by governmental regulation and thus think anti-trust action sometimes inappropriate, sometimes doomed to failure and sometimes damaging to progress.

In this submission a perfectly definite position is taken on this controversy. The position may be described in the strict and correct meaning of the word as "sceptical". It is submitted that existing and available evidence does not support the propositions of either school of thought. So important is this controversy as it affects future policy that it is worth the Commission's time to weigh carefully what the evidence of the previous chapters shows.

1. An increase in the size of the average firm is not identical with an increase in the degree of concentration. The expansion of the market has permitted the average size of firm to increase without any increase in the degree of concentration.

2. There is some, rather uncertain empirical evidence to support the view that an increase in the size of plant results in economies of scale. The suggestion that an increase in the size of the firm always, or even usually, results in economies of scale is not adequately supported by the evidence.

3. An increase in concentration may frequently result in a diminution of competition but it does not necessarily do so. In some cases local monopolies may be broken down and competition actually increased.

4. All generalizations about industry as a whole must be regarded with scepticism. In some particular industries concentration has not proceeded far and may develop in the future; in others a diminution in concentration may be anticipated as the Canadian market expands. In some industries economies of scale are manifest; in others large-scale ownership brings no advantages to the public. In some highly concentrated industries there appears to be a high degree of monopoly; in others close substitutes for their product or lack of tariff protection yield continuing competition.

5. Whereas there is a fair presumption that a diminution in competition is contrary to the public interest, this is not necessarily so. Where a "workable price competition" has disappeared, some forms of monopolistic competition or oligopoly are probably more socially harmful than monopoly itself.

Influence of Public Policy

Canadian public policy, in the future as in the past, will profoundly influence the development of Canadian industry and the trend towards greater or lesser degrees of concentration.

In the past, policy in this field has been ambiguous with regard to industrial concentration. A protective tariff, the encouragement by provincial and federal governments of various pooling agreements and other protectionist practices, war-time quota agreements fostered by government, agricultural

marketing processes, often government-inspired or directed, all have tended both to increase concentration and to diminish price competition. On the other hand, Canada has legislation which makes monopolistic practices, combines, mergers and other forms of consolidation punishable offences.

It would seem, in practice, that some protectionist and restrictive practices in certain industries are regarded as being in the public interest, while similar activities in other industries are not. This kind of flexibility in policy seems to be in accord with the view that a general policy which did not provide for exception would be impracticable. In this connection, however, a leading Canadian legal scholar has urged[3] that the jurisprudence which has grown up in connection with the administration of our Combines Act has nullified Parliament's intention to punish only those combines which were shown to operate to the detriment of the public.

Our terms of reference do not require us to attempt the task of trying to prophesy what Canadian policy will be in the future. It will be recalled that definitions and measures of concentration have to do with the degree of concentration in *national* industries. If the firms of an industry must compete with imports from all over the world the fact that there appears to be a high degree of concentration, measured nationally, in that industry seems to be irrelevant to the question of competition.

There has been some trend in Canadian policy towards a more liberal trading position. If this trend continues, competition in the Canadian market will be enhanced whether Canadian industries become more concentrated or not. Also, it should be remembered that some Canadian industries—although when measured nationally they appear to have a high degree of concentration —are in fact exporters who sell in the world market in active competition with firms in all other nations where such industry is located. If GATT succeeds in gradually encouraging the removal of tariffs, vexatious customs' procedures, bilateralism and other protectionist devices, it will provide a great stimulus to competition everywhere.

One may be permitted to wonder if present trends as they are observable do not indicate that present industrial categories tend to obscure the degree of competition which actually exists. Innovations in new goods and new materials are continually throwing on the market commodities which compete with the products of established industries. In textiles, for example, products of the chemical industry and of the pulp and paper industry are now competing with cotton, silk and woollen yarns. If this trend continues—and it seems likely that it will do so for some period of time—it raises the question whether the old measures of concentration are very meaningful. It might be that inter-industry consolidations would become of more concern than intra-industry consolidations.

[3]Wolfgang Friedman, "Monopoly, Reasonableness and Public Interest", *Canadian Bar Review*, February, 1955.

More particularly, in examining concentration, have we reason to assume (a) that an increase in concentration means a diminution of competition, and (b) that competition is always favourable to, and a diminution of competition always detrimental to, the public interest? Are all forms of competition price competition? When, for example, oligopolists compete to differentiate their brands by large scale advertising, are we really certain that competition protects the public and achieves an optimum use of the social resources?

When the Combines Investigation Act was amended, the Restrictive Trade Practices Commission was established and its duties were expressly stated to appraise the effects on the public interest of combines and mergers as alleged in the Statement of Allegation prepared by the Director of Investigations under the Act. What criteria will this body develop for the appraisal of the public interest? What developing philosophy appears in their decisions to date? These questions, it is submitted, the Royal Commission must strive to answer if it is to form any proper assessment of the probable future trends in concentration and consolidation in Canadian industry.

If the Commission comes to believe that the Restrictive Trade Practices Commission has so far developed no economic technique for the appraisal of the public interest and has become largely a court of first reference in which the old jurisprudence (i.e. that if a combine or merger can be shown the legal presumption is that it is contrary to the public interest) obtains, it must then try to estimate the effects of such juridical rules on Canadian economic development.

In this study we have tried to indicate that an anti-trust policy is desirable for the protection of the public interest. We have suggested, however, that anti-trust action of and by itself is not sufficient as a remedy for monopolistic practices. We have suggested further that the administration of anti-trust policy should be flexible rather than dogmatic and that the Restrictive Trade Practices Commission should not rely on simple juridical rules but, rather, accept the responsibility of defining proper criteria for the appraisal of the public interest.

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[1]This is one of a series of three studies on Canadian international economic relations prepared under the direction of S. S. Reisman.

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