STRUCTURAL CHANGE
IN THE CANADIAN AGRICULTURAL ECONOMY

BY

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A dissertation submitted to the Faculty of Graduate Studies of the University of Manitoba in partial fulfillment of the requirements of the degree of

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To my Mother and Father

ABSTRACT

This study was conducted, using rectangular input-output tables for 1961, 1966 and 1971, to: (a) define structural change in the Canadian agricultural economy in an input-output sense; (b) establish some appropriate quantitative and qualitative input-output measures of structural change and to apply them to the Canadian economy; (c) determine the implications of this study on decisions pertaining to production, consumption, accumulation and trade of output and inputs; and (d) to assess and evaluate the existing input-output analysis and statistical data, and to make recommendations for future research.

A review was made on available literature relating to the definition and measurement of structural change. For purposes of this study, structural change refers first to changes in allocation of inputs or their combinations from one period to another in the production and marketing of agricultural and related output both intermediate and final; and secondly to changes in the types and levels of output. Six measures were chosen to test the hypothesis that there were major structural changes in the Canadian agricultural economy and related industries between 1961 and 1971. These measures were based on changes in (i) individual technical input-output coefficients; (ii) intermediate materials and primary factors of production; (iii) impact coefficients and final demand multipliers; (iv) percentages of domestic commodity output to final demand; (v) actual number of material inputs used and outputs made by each

industry; and (vi) annual compound growth rates of industry output.

The major conclusion of the study is that the Canadian agricultural economy experienced major structural changes which have been measured primarily in agriculture and a variety of related industries. The feed manufacturing and the flour and breakfast cereal industries seem to have experienced the most structural changes particularly related to changes in their input combinations or resource allocations.

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CHAPTER I

INTRODUCTION

(i) Conceptual Framework

Over the past three decades, agriculture has been a strong force in the Canadian economy, directly providing food for the growing domestic and foreign markets, offering employment on the farms, in food manufacturing, marketing and services industries and earning foreign exchange to solve balance of payments problems. Indirectly, growth in agriculture has meant growth in other sectors, especially those related to agriculture, because of the interdependence among these sectors. Thus large scale farm production has meant increased use of farm inputs especially farm machinery and the biological inputs, this way freeing labour for jobs in other sectors. Increased use of farm inputs has in turn meant increased production, trade and consumption of the products and resources used to make them.

Today Canadian agriculture continues to play a significant role in terms of production, consumption, capital accumulation and trade in the continuing process of economic development. Growth is in both contribution and requirements. Production today is composed of a greater variety and in most cases higher quality products than three decades ago. The input requirements have changed considerably in form, quality and quantity. Changes in production and resource uses have been in response to changing consumer demands and preferences, incomes, foreign trade, technological advances and agricultural specialisation.

Of the total Canadian land potential of 922 million hectares only 4.7 percent is arable and 2.7 percent permanent pasture[1]. Thus Canadian agricultural production has had to depend heavily on technology changes and trade in order to satisfy her requirements. Over the past two decades production, both primary and manufactured, has been increasing and diversifying. Food availability indices have also kept in line with production. Diversification has been especially significant in manufacturing which has widely taken advantage of advances in food technology and services to widen food markets.

As farm labour decreased with mechanisation, and thus became very expensive, capital inputs into agriculture increased tremendously, particularly so in primary production, embodying technological changes over the years. Capital inputs into primary agriculture increased from a total value of $1,389,189 in 1961 by 90 percent to a value of $2,645,365 in 1966 but fell only slightly to a value of $2,414,511 in 1972[2]. Gross capital formation in agriculture and livestock production increased from $565 million in 1963 to $2,437 million in 1975[3]. The value of labour income to agriculture increased from $241,708 in 1961 to $275,554 in 1966 and to $372,242 in 1971[4]. Generally both the volume and value of material inputs substantially increased, mainly due to technological, final demand and price changes. The value of material

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[1] FAO Production Yearbook Vol. 30 1976, FAO of the United Nations.

[2] Statistics Canada Input-Output Tables 1961, 1966 and 1971. YI Matrix.

[3] Yearbook of National Accounts Statistics, Vol. I, Department of Economic and Social Affairs, Statistical Office of the U.N., New York (1976).

[4] Statistics Canada Op. Cit.

inputs into agriculture rose from $1,212,928 in 1961 by almost fifty percent to $1,815,775 in 1966 and further to $2,136,980 in 1971[5]. In these three different years of the study, the value of agricultural production rose from $1,099,380 in 1961 to $1,562,813 in 1966 and to $1,776,847 in 1971[6]. Later in the study, changes in individual inputs for all industries over the study period will be identified.

Agriculture is considered a major export industry and in 1975, of the total Canada's merchancise exports, wheat alone accounted for 6 percent. In 1976, a surplus of $1.3 billion to the international balance of payments came from food, beverages and tobacco[7]. Total Canadian agricultural exports have almost doubled in value between 1971 and 1976, rising from $2.2 billion to $4.3 billion respectively. Over the same period, total agricultural imports more than doubled from $1.3 billion to $3.3 billion. In 1975 Canada imported $1.2 billion and exported $0.99 billion worth of agricultural requisites most of which was agricultural machinery[8].

Canadian agricultural trade is strongest with the United States (U.S.). In 1976 Canada imported from the U.S. $1.43 billion and exported $0.60 billion worth of agricultural output to that country. In 1977 the balance of trade was still unfavourable with $1.58 billion

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[5]Op. Cit. Use Matrix.

[6]Op. Cit. Make Matrix.

[7]Canada Yearbook 1976-77, Special Edition, Statistics Canada, pp. 425-426.
All figures in this chapter are rounded up (or approximated).

[8]FAO Trade Yearbook (1976) FAO of the United Nations.

and $0.64 billion worth of imports and exports respectively. Taking into account the recent devaluation of the Canadian dollar and the general world inflationary pressures on prices, it still appears that Canada spends much more on agricultural imports from the U.S. (about 43.3 percent) than she receives from agricultural exports to that country (14.1 percent). Agricultural trade is mainly in food and animals, and the highest values are for cereals and cereal preparations for imports and fruits and vegetables for exports[9].

The economic implications of the interrelationships and linkages within the agricultural industry and between this industry and the rest of the economy need to be carefully identified and studied. Economic development may be characterised by changes in technology of production, consumption, capital accumulation and trade. This description related closely to the four accounts of a nation which should be analysed if we wish to understand an economic system. This system has been diagramatically represented by the United Nations in figure 1. Changes in the above mentioned variables involve changes in outputs and inputs - both quantities and qualities. Changes in resource productivity may lead to structural changes in production functions and resource demand. These changes will spark off a chain of further structural changes which in the long run will embrace the entire agricultural economy in particular and the entire economy as a whole.

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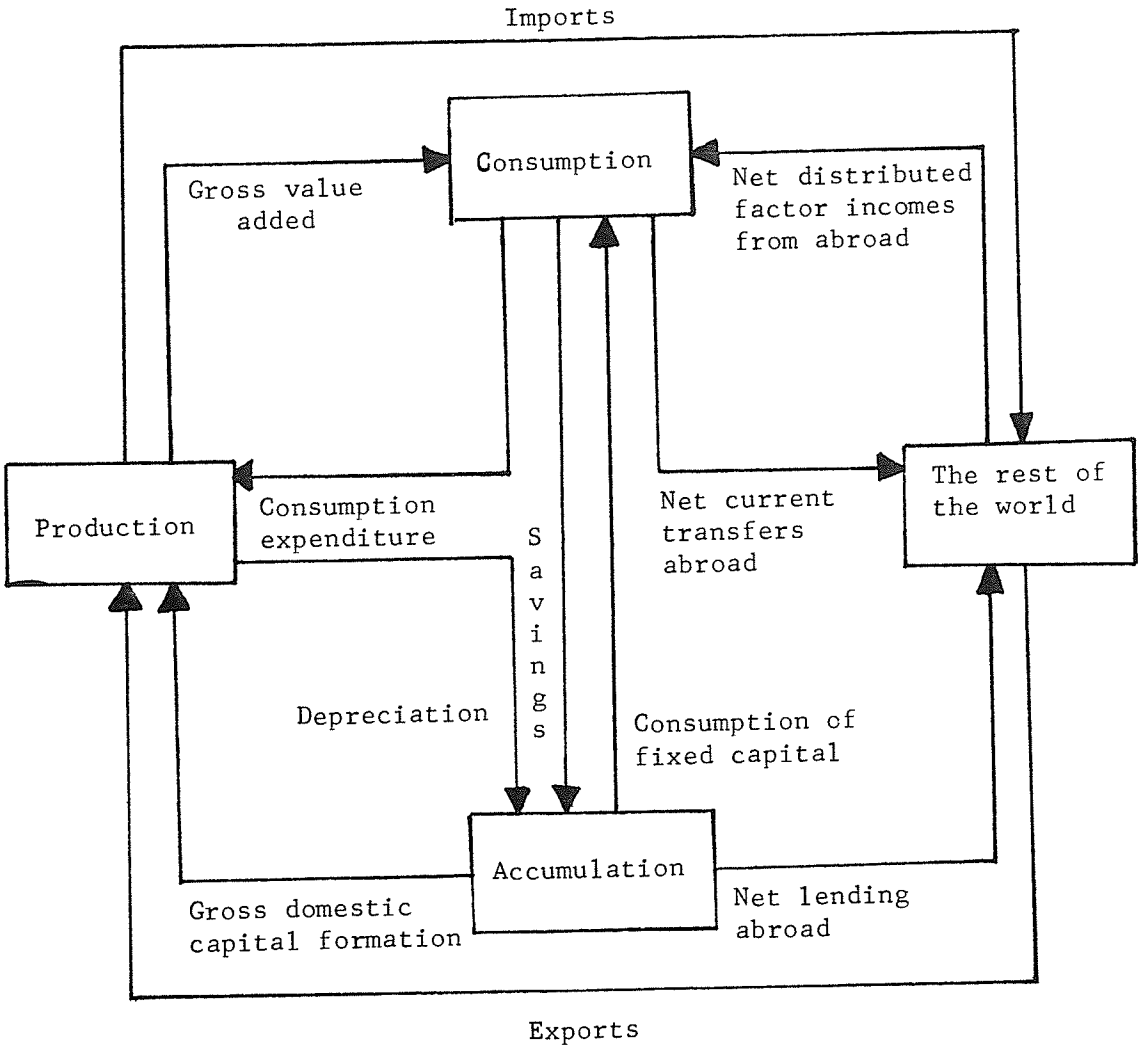
[9]United States Foreign Trade Statistics, 1977.

Figure 1.1 The Four Accounts of a Nation



Source: Reproduction of Diagram 1.1 in A System of National Accounts, Department of Economic and Social Affairs, Statistical Office of the United Nations, New York, (1968), p. 7.

In the process of development, changes in agriculture have had far reaching effects on the manufacturing and services sectors of most world economies. With specialisation in production, emerges increasing importance of off-farm operations, making production and marketing more efficient. This increasing importance, as Appleton[10] rightly noted, is only relative because both farm and off-farm operations continue to be highly interdependent. Industrial processing and manufacture of food products - both natural and synthetic - have become an important feature of the agricultural industry specialisation, reflecting the changing nature of production, consumption, capital accumulation and trade, and the advances in food and other technology.

As mechanisation of agriculture enabled the release of labour to other occupations, significant changes occurred in commerce, trade and other industries including those related to food and fibre commodities. The concentration of people in these new occupations and later to the services sector has pushed agricultural specialisation even further, in order to satisfy the needs of urban communities in particular. The rising specialisation of the industry has resulted into two major effects. Firstly, the increased complexity of agricultural production, reflected in the inputs, technologies used, variety of products and production units, has contributed significantly to trade and Canadian employment opportunities. The same may be said of marketing and research services. Secondly, the rising costs of labour and energy in

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[10] P.L. Appleton, "The Canadian Agriculture and Food System", A.E.R.C.C., (1972), p. 2.

agriculture have compelled the industry to depend heavily on capital intensive technology for efficient production[11].

So as consumption and production technology change, there are expected changes in direct and indirect relationships between the sub-sectors of the agricultural economy, on both the demand and supply sides. The direct and indirect relationships and linkages that exist within this particular economy cannot be overemphasized. Efficient planning of resource and production requirements, by both government and business, will necessitate the determination of these relationships from one period to another, since these are subject to change. The agricultural system is complex, but improvements in input-output data collection and statistical techniques, since the times of Leontief, of Chenery and more recently those of Carter, have made our understanding of the system a lot easier, though not complete. The changing structure of the agricultural industry has necessitated changes in the nature, level and accuracy of our statistics for the purposes of efficient decision making. Sundquist emphasized this point in case of the United States agricultural economy.

> The structure of agricultural industry will never be as it once was ..... Yet, if we are to provide information essential for good decision making, we need to provide some modification in existing statistics and develop new statistics as well[12].

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[11] This section draws some arguments from Appleton.

[12] W.B. Sundquist, "Changing Structure of Agriculture and Resulting Statistical Needs". A.J.A.E. Vol. 52, No. 1 (Feb. 1970) p. 215.

He goes on to highlight the fact that statistics should as much as possible reflect the differences that do exist among units in any sector of the agricultural economy and recognise the non-homogeneity of the agricultural industry. Carter[13] discusses the issues of aggregation and qualitative change in a fixed classification which are in line with the issues touched by Sundquist. She emphasizes that our understanding of the meaning of the numbers we work with or changes in them will very much depend on how much meaningful disaggregation there is and how much we can allow for qualitative change.

It is hoped that the information that will be generated in this study will contribute further to the process of efficient decision making. Efficient agricultural planning for specific regions will require the availability of such information at regional levels.

(ii) Specification of Problem and Scope of Study

Structural change in the Canadian agricultural economy and related industries is not well defined. This is mainly due to the fact that there are no studies on structural change in the Canadian economy per se: those available are piecemeal and not overall. Secondly, the information available pertaining to relationships and linkages within the Canadian economy is very scanty and basically descriptive in nature. Also, there is a diversity of approaches in measuring structural change, depending on the conception of the word "structure" and the variables considered thereof. The few studies available take

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[13] A.P. Carter, Structural Change in the American Economy, Harvard Univ. Press, Cambridge, Massachusetts 1970, pp. 8-13.

different, mainly econometric, approaches emphasizing, for example, efficiency based on production and demand functions. Most of these studies take account of only the primary inputs, namely capital and labour, in their analyses.

This is a problem and it is important because without a satisfactory definition of "structural change" on which to base our analysis of an economy, our results, conclusions and contribution to the process of decision making and planning are bound to be misleading. There is a need therefore for a comprehensive definition of structural change and an input-output approach which may be considered more useful for looking at such a complex system though in a simplified way. This approach also allows a more effective analysis of both primary and material input changes. The lack of established quantitative input-output measures of structural change over time and their application to the Canadian agricultural economy necessitates development and application of such measures to this economy. Also input-output analysis allows us to more effectively trace direct and indirect repercussions of specific policies and changes.

This study will cover structural change in the Canadian agricultural economy - which includes food and fibre primary production, processing, manufacturing, storage, marketing, agricultural inputs production and marketing and service industries - with particular reference to the years 1961, 1966 and 1971.

(iii) Specification of Research Objectives

The major objectives of this study are:

(a) To define structural change in the Canadian agricultural economy, in an input-output sense.

(b) To establish some appropriate quantitative and qualitative input-output measures of structural change and to apply them to the Canadian agricultural economy.

(c) To determine the implication of this study on decisions pertaining to production, consumption, accumulation and trade of outputs and inputs.

(d) To assess and evaluate the existing input-output statistical data and analysis, and make recommendations for future research.

(iv) Plan of Study

The study is divided into six chapters. Chapter I introduces the study, giving the conceptual framework, specifying the research problem and objectives. The second discusses the literature reviewed. The third gives the theoretical framework on which the study is built and the model to be used for analysis. Chapter IV discussess the methodology to be used; the measures to be made and the analysis of data. The next chapter gives and discusses the results and implications thereof. Chapter VI gives the conclusions reached, limitations met and the recommendations of the study.

CHAPTER II

LITERATURE REVIEW

Literature on structural change in the Canadian agricultural economy in particular, and in the Canadian economy in general, is very limited. Such studies using an input-output approach are even more scanty. The bulk of the literature so far available relates to the United States economy but there are several useful studies available on European countries like Germany and eastern countries like Japan. The major works for review are that of Leontief, the father of input-output economics, et al.[1], and more recently that of Carter[2]. The study by Heady and Tweeten[3], though not using a strictly input-output approach, has a special contribution on the demand, supply and structure of resources in studying the agricultural industry. Since the late 1960's more work has come out relating to structural change, its causes and measurement, and among these this review has looked at those by Yeh and Lin[4],

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[1]Wassily Leontief et al., Studies in the Structure of the American Economy, New York: Oxford University Press, 1953.

[2]Anne P. Carter, Structural Change in the American Economy, Harvard University Press, Cambridge, Massachusetts, 1970.

[3]Earl O. Heady and Luther G. Tweeten, Resource Demand and Structure of the Agricultural Industry, Iowa State University Press, Iowa, U.S.A. (Chapter 2).

[4]Martin H. Yeh and Leon Lin, "Technological change in the Canadian Livestock Industry: An input-output approach", in Canadian Journal of Economics, Vol. 17, No. 2, July 1969.

Staglin and Wessels[5], Faluvégi[6], Ozaki[7] and Sevaldson[8].

For Leontief structural change meant a change in the structural matrix - i.e., a set of input-output coefficients - of an economic system. Leontief considered it important that in a study of structural change questions like how the structure of the particular economic system actually changes and how this change affects the magnitudes of dependent variables like outputs and prices should be answered.

In this basic study of structural change in the American economy for the years 1919, 1929 and 1939, Leontief faced considerable data problems and did not have the advantage of our contemporary computer systems. However, the major limitation that he cites is the fact that the study reflected only the variations in the flow structure of the economy while neglecting the changes in its capital structure. A stock flow matrix describing requirements for individual industries was available for only 1939.

This method of measuring structural change - or coefficient change according to his definition - is the basis for most methods developed later. To determine change in any one particular coefficient between two points in time Leontief uses a simple weighted index of relative

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[5]Reiner Staglin and Hans Wessels, "Intertemporal analysis of structural change in the German economy" in Brody and Carter (eds.), Input-Output Techniques, North Holland Publishing Co. 1972.

[6]L. Faluvégi, "Economic development: Economic Structure, New Phenomena in the world economy", in Ecta Osconomica, Vol. 14 (2-3), 1975.

[7]Iwao Ozaki, "The effects of technological changes on the economic growth of Japan, 1955-1970, "in Polenske and Skolla (eds.), Advances in Input-Output Analysis, Cambridge, Mass.: Balinger Pub. Co. 1976.

[8]Per Selvadson, "Price changes as causes of variations in input-output coefficients", in Polenske and Skolla (eds.) op. cit.

change aik which is equal to $\frac{(aik_1 - aik_2)}{(aik_1 + aik_2)/2}$ where aik_1 and aik_2 are the magnitudes of a particular input-output coefficient to be compared. His reason for weighting the indices is to reflect the fact that some input-ratios belong to large while others belong to comparatively small industries. Following this method, Leontief found that the coefficients did change over the given period. This observed change, and particularly its effect on the total outputs of individual industries and employment in them, led him to further analysis. On the effects of structural change Leontief tried to show the separate and combined effects which took place in the various producing sectors of the American economy between two sub-periods 1919 to 1929 and 1929 to 1939. Leontief constructed tables 6 and 7[9] to show what would have happened to total outputs and labour requirements if one industry or a group of them had gone back to the 1919 (or 1929) techniques while the other sectors of the economy continued to operate on the basis of their 1929 (or 1939) input-output ratios respectively.

Leontief further argues that total change within an open system, within which he works, may be due to structural variations and to change in final demand. Leontief tends to distinguish two major attributes to change: those attributed to coefficient change and those attributed to final demand changes.

Carter's study is of particular interest to the present study because it is among the first comprehensive input-output studies of

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[9]Leontief et al., op. cit., p. 35.

structural change, taking into account both material and primary inputs. This was a great improvement over Leontief's work and other studies of that time. The earlier studies, under technological change, had concerned themselves with primary inputs and final production thereof, giving us no specific information about the transactions in the "black box"[10] which actually deliver these inputs to outputs. This is the explicit information Carter sets out to explore, in addition to that regarding primary inputs, in studying the process of structural change between 1939 and 1961, with particular emphasis on the period between 1947 and 1958. Carter's study is rooted in the premise that an explicit analysis of changing intermediate input requirements gives us more insight than confusion particularly in understanding technological change which is considered to be a major cause of structural change. Carter further maintains that working with details of both material and primary input requirements permits the absorption of a lot of fragmentary information from extra-economic sources. Carter's study is recognised for its redirection of attention to the problem of industrial specialisation in the economics of that time. Carter's study in fact sets out to show how technological change has affected industrial specialisation - intermediate output requirements to deliver a given final demand and an input-output structure - as well as direct primary input requirement and how these components of change are interrelated. As to

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[10]The information on 'intermediate inputs' is referred to as the transactions in the black box. See Carter op. cit., p. 4.

the importance of Carter's study to the present study, it may be added that the American economy has strong ties and similarities to the Canadian one so that a study on the American economy has a lot to offer in studying any part of the Canadian economy.

Part one of Carter's work is devoted to structural change and industrial specialisation, dealing explicitly with the pattern of structural change in intermediate inputs. Carter follows Leontief and defines structural change as "changes in input-output coefficients"[11] which represent changes in the amount of inputs from one industry i required to produce one unit of output by another industry j. Carter indicates that structural change is caused not only by changes in product mix and in technology - technology defined as "a vast and complex body of scientific, technical and social knowledge that dictates how goods and services are produced"[12] - which involves change in the production function, but also long-run and short-run substitution of inputs within the context of a given production function, which may arise as a result of changes in the relative prices of various inputs.

Some of the measures of structural change used by Carter are found to be very straightforward and meaningful by the present study and are thus adopted with little or no modifications. It is hoped that a comparison of this study's results to those of Carter's study will be possible, even though the emphasis of this study is on the sub-economy agriculture.

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[11] Carter, op. cit., p. 217.

[12] Ibid., p. 10.

Carter's measures are mainly descriptive, strengthened by three-way double log scatter graphs, bar graphs, other figures and statistical tables. After calculating direct input-output coefficients she constructs scatter diagrams, for the most outstanding results, which conveniently separate large from small coefficients in a given row and show the relative changes in direct coefficients over time. Although Carter uses direct coefficients, the advantages which indirect coefffi-cients have over direct ones are recognised. The present study intends to use both the direct and indirect coefficients for a more detailed analysis.

In measuring changing intermediate input requirements Carter starts off by showing changing gross output divided into gross national product (GNP) - or final demand - and intermediate output. Over the period of her study, Carter finds them to be roughly equal. Although the earlier national income accounting systems eliminated intermediate production to avoid "double counting" Carter points out that it is this composition of inter-industry sales that reflects most directly the effects of changing technology and the organisation of production. Intermediate inputs are the specific goods and services used to produce the GNP. We may also add that these same intermediate inputs are used to make other intermediate inputs and thus may be considered as first-order, second-order, and so on inputs. Carter begins her survey of change by fixing the GNP at a given level and industrial composition and then examines the intermediate output requirements to produce this same final demand with the input-output structures of different years. Comparing the intermediate output requirements for executing the same

job, she was able to separate the effects of changes in the structure of an industry from changes in final demands made on the system. The formula for computing the intermediate outputs for the years 1939, 1947 and 1958, based on the three input-output coefficient matrices, expressed in 1947 prices is:

$$Z^t = Q^t Y^{61} - Y^{61}$$ [13] where Z^t is a vector of intermediate output levels, Y^{61} is the 1961 final demand vector and Q^t is the inverse matrix for the given year. The 1961 intermediate outputs consistent with this bill of final demand are simply the difference between actual total output and the final demand of that year. Carter noted that the dollar volume (in constant prices) of intermediate inputs was relatively stable, growing slightly over time. Her interpretation of the fact that input requirements for production of the same final product tended to increase with newer, than with older production techniques was that it meant increased specialisation, representing a change in the division of labour among establishments, but not deteriorating technology. The later technologies used slightly more intermediate but less primary inputs such as capital and labour.

To study interdependence among sectors, Carter constructed hybrid matrices - i.e., she developed hypothetical economies with 1947 structures in some sectors and 1958 structures in others. Using the three different technologies in turn, changing total labour and capital requirements were estimated according to formulas $U^t = I^t Q^t Y^{61}$ and $K^t = b^t Q^t Y^{61}$ [14]

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[13] Ibid., p. 34.

[14] Ibid., p. 40 and 42.

where U^t and K^t are the labour and capital estimates respectively, I^t and b^t the labour and capital coefficients, Q^t the inverse matrix for the given years and Y^{61} the final demand for 1961.

Next Carter constructed figures which illustrated, for the fixed bill of 1961 final demand, how the total volume of employment or capital requirements changed over the study period. Carter too found difficulty in obtaining capital coefficients comparable overtime because of the meagre information and the changing qualitative character of the capital goods composing the stock. From the results of this method, she concluded that technological change in the four different years had made it possible for the American economy to produce a given bill of final demand with reasonably less labour and somewhat less capital stock. Carter claims that the net decrease in labour inputs was a result of decreasing direct labour coefficients along with changes in the relative importance of specific intermediate inputs required to deliver the given final demand. Further, Carter maintains that the basis for quantitative increases in labour efficiency is provided by changes in industrial specialisation and quality of all inputs.

While some intermediate requirements coefficient changes reinforce each other, others tend to cancel each other out in their combined effects. Carter gives the examples of aluminium, which was found to be growing in importance in automobile engines and construction but declining in the case of pots and pans; of increased energy uses by some industries in response to increased mechanisation or automation, while for others energy consumption decreased as greater efficiency of energy use overtook increases in mechanisation; and of paper which was in-

creasingly used in some types of packaging uses but was replaced by plastics in others.

Carter employs another method which looks at changing intermediate requirements for delivering different sub-vectors of final demand. The method involves turning to the three different years economies, asking each to produce the 1961 bill of goods for a particular sector only, pretending all other elements of final demand are zero. The formula for computing the vector of intermediate outputs required to deliver the final demand for sub-vector g with the technology of time t prevailing in all industries is as follows:

$$_{g}Z^{t} = Q^{t}\ {}_{g}Y^{61} - {}_{g}Y^{61} \qquad (g = 1, 2, \ldots, 8) \qquad 15$$

where Q^t is as defined above and ${}_{g}Y^{61}$ is one of the eight sub-vectors of 1961 final demand.

In studies with the kind of detail as was accumulated in this particular study, the idea of grouping industries which are highly related is very convenient for final analysis.

Heady and Tweeten, in their chapter on changes in the structure and organisation of agriculture, open a very useful discussion on the factors affecting the supply and demand of agricultural resources or inputs. They discuss changes in the availability, productivity, factor levels and proportions, sources, costs and returns, composition and location of resources; changes in the production units; and the impact these changes, individually or in combination, have on the farming

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[15] Ibid., p. 45.

community and other sectors of the American economy. Their major finding, after studying conditions between 1910 and 1960, is that although there were substantial gains to society from "---the changes in the forms, mixes and structure of resources in agriculture", the gains in farming efficiency had not been passed on equally to the farm sector. Instead, the non-farm food industry - processing and marketing - was earning more and more from consumers. It will be interesting to investigate the comparative situation in Canadian agriculture.

The Canadian study by Yeh and Lin refers to a specific industry, livestock, within the agricultural sector. This study uses input-output analysis to quantify the interdependence among the livestock and other related industries. Based on these relationships, Yeh and Lin develop multipliers within agriculture. Using the technique developed, the study analyses the rate of technical change within the beef industry and then projects domestic demands for beef and pork and labour requirements in meat processing to the year 1975. They define technological change as an increase in productivity resulting from improved production techniques, knowledge, management and organisation of business[16]. Their method of looking at the contributions in percentages or ratios of the three types of inputs - materials, labour and capital - from year to year seems to be an efficient way of measuring structural change. The major contribution of this study however lies in the insights it gives us about the Canadian livestock industry.

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[16]Yeh and Lin, op. cit., p. 66.

Staglin and Wessels conducted an intertemporal analysis of structural change in the German economy based on input-output tables for 1954, 1958 and 1962. For them structural change is the result of a combination of changes in final demand and of changes in input-output coefficients, where coefficient changes are interpreted as technological change. Technological change is in turn defined as the increases or decreases in input requirements represented by changes in input and inverse coefficients[17]. The major interest of Staglin and Wessles' study was to analyse "---the overall effect of changes in all coefficients, i.e., in the repurcussions of a changing degree of interdependence on gross production values"[18].

Staglin and Wessels' study indicated that although there were many ways of measuring the relative importance of final demand and coefficient change, they all aimed at combining different sets of each. They too recognised the possibility of making the structural analysis of the given period in either one piece or in two sub-periods, 1954 to 1958 and 1958 to 1962. To measure structural change between these two sub-periods the following procedure was followed. First, the changes in sectoral gross production between the two sets of years were explained by multiplying the final demand of the last year in each set by the input-output inverse matrix for the first respective year. This yielded estimates of gross production in the final years if the first years',

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[17]Staglin and Wessels, op. cit., p. 374.

[18]Ibid.

instead of the last years', technologies had prevailed. Comparing these final years' gross production values, the amount of gross production change between these two periods that was attributable solely to changes in final demand was determined. Next, by comparing these derived 1958 and 1962 gross production values with the actual values in those two years, the change due to changing coefficients was determined. The structural changes in the total period could be similarly determined by using fixed 1954 or 1962 inverse coefficients. The general procedure was mathemetically represented by the equation:

$$C^{58}Y^{58}-C^{54}Y^{54}=(C^{58}Y^{58}-C^{58}Y^{54})+(C^{58}Y^{54}-C^{54}Y^{54}) \quad [19]$$

for period between 1954 and 1958, where C is the inverse matrix, $C^{54}Y^{54}$ is the actual gross production value for 1954, $C^{58}Y^{58}$ is the actual gross production value for 1958, and $C^{58}Y^{54}$ is the derived gross production value for 1954.

In his study on economic development and structure, with particular reference to Hungary, Faluvégi re-examines the notion of economic structure, its changing nature under international conditions and influences, and the ways and means of modernising the micro-structures to make them more desirable. Apart from considering structural change as the substance and permanent aspect of development, Faluvegi further describes it in this way:

> Technological development and changes in the consumption pattern change the importance of certain products and industries as well. New products appear, new industries

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[19] Ibid., p. 380.

> develop, while old ones regress or even cease. Materials previously unknown are used and old ones lose importance. As a consequence the economic structure suffers continuous modification[20].

Faluvégi further argued that at that time, the most intensive structural transformers were scientific and technological progress, changes in needs and requirements, changes in world economic conditions and the given socio-political system. He goes on to claim that planned economies create favourable opportunities for conscious structural changes because they allow for a co-ordinated allocation of resources which best correspond to the most desirable structure. Faluvegi discusses at length the guidelines and criteria for judging an economy's structure. He considers that an efficient economic structure is one which ensures an optimum growth in national income while simultaneously meeting acceptable social requirements like employment. It is his belief that for national income to increase continuously and at a most favourable rate, the economic structure has to keep changing.

On the effects of foreign trade on a country's economic structure, Faluvégi's view is that the more developed an economy is the greater the influence of foreign trade.

Ozaki, in his study of the economic growth of Japan between 1955 and 1970, attributed the large amount of structural change experienced over the period to the high rate of growth after the war and a sustained ten percent annual growth rate over 20 years. Ozaki noticed that over

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[20]Faluvégi, op. cit., pp. 145-146.

the period agricultural labour had rapidly decreased, while labour in manufacturing and services sectors had increased. His study sets out to show statistically some of the factors that had sustained the high growth rate with emphasis on the effects of technological changes. Ozaki attempted to analyse empirically the performance of structural change in the Japanese economy as a whole using Leontief's approach.

Using four input-output tables of Japan for 1955, 1960, 1965 and 1970, all represented in 1965 constant prices, Ozaki designed three experiments for his analysis. In applying input-output analysis to the economic dynamics that involve structural changes, he considered it necessary to determine empirically the technology parameters of the sectoral production function and to find systematic changes in the technology along with concomitant changes in labour and capital requirements. Technology structure is here defined as:

$$T_c = \begin{bmatrix} A \\ C \end{bmatrix} \quad ^{21}$$

where A represents the nxn matrix of intermediate input-output coefficients represented as aijs and C represents the 2xn matrix of labour and capital input coefficients, represented as Ljs and Kjs, respectively.

Experiment 1 of his study involved the analysis of technological changes in the Labour and Capital inputs - described by ΔC. First, the statistical estimation of the technology parameters of the production function were made. On the basis of the results of this estimation, the following types of technology were identified:

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[21] Ozaki, op. cit., p. 94.

K(I), K(II), (L-K), L(I) and L(II).

To observe the changes in allocation of resources in connection with each technology, the following indices representing the changes in composition ratios of value added, V, labour force, L, capital stock, K, gross output, X, and final demand, Y, were computed. These ratios show the ratio of the amount of each variable for industry j to the total for all industries. Thus the ratios are V_j/V and so on for all the other variables. Indices of changes in these ratios over time were computed for the first three variables for the period between 1955 and 1965, and for the last two variables for the entire study period[22].

Experiment 2 investigated changes over time in intermediate input patterns - ΔA. In effect this experiment made a statistical verification of the substitution effects of new products for old ones in the use of materials. The economy was divided into 6 blocks: the new technology (N), the employment (**R**), the services (S), public utility (U), the metal (M) and the traditional (T) blocks. In order to observe changes over time in intermediate input patterns, the following indices were computed for each block[23]:

$$H_j^K = \frac{\left(\sum_{i\in k} b_{ij}\right)_{1970}}{\left(\sum_{i\in k} b_{ij}\right)_{1955}} \cdot 100 \qquad j = 1,2,\ldots\ldots, n = 54$$

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[22] Ibid., p. 99.

[23] Ibid., p. 105.

where K represents the K^{th} block

If K = N, $H_j^N > 100$ meant the increase of the required inputs of new products in block N between 1955 and 1970. $H_j^N < 100$ meant the decrease of the required inputs of new products in block N between the same period.

Experiment 3 combines the results obtained in experiments 1 and 2 to make an empirical determination of changes over time in the allocation of resources among various sectors. The results of experiment 3 clearly showed that two dominant factors, the effect of economies of scale in the use of labour-capital inputs and the substitution effects of new for old products in the use of material inputs, played an important role in the structural change in the rapidly growing Japanese economy. Ozaki maintained that the steady economic expansion in the traditional sectors was instrumental in introducing new technology and thereby developing new products and markets during that period. The steadily expanding traditional sector provided a large absorption of the labour, which satisfied the full employment condition; it provided a large scale supply of consumption goods for the final demand sector; and it was a large market for new products supplied by the new technology block.

Ozaki's final definition of structural change "---a change in resource allocation patterns caused by changes both in production technology and in demand"[24], is most appropriate, for it tends to sum up the definitions so far offered in this review. His approach is most useful to our study since it closely follows the fundamental ideas of Carter's work, though using a different style.

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[24]Ibid., p. 108.

Sevaldson[25] studied price changes as causes of variations in input-output coefficients. Apart from changes in volume of output, Sevaldson investigated an alternative source of coefficient change. After his analysis, he concluded, like most economists reviewed here, that, besides random causes of coefficient change, there were more complex causes than substitution among which are technological change, changes in product mix, changes in specification of products and their distribution over producers. Selvadson also rightly mentioned the question of errors in statistical reporting, measurement and deflation as other factors which affect coefficient changes.

The above review gives an insight into some of the work which has already been done on the subject of structural change and related topics. Of particular interest to this study are the works with an input-output approach. It is the writer's belief that the input-output approach and structural change studies have not received enough attention in Canada.

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[25]Sevaldson, op. cit., pp. 113-133.

CHAPTER III

Theoretical Framework

The theoretical framework on which this study is based is the "General Equilibrium Theory" with particular reference to comparative static input-output theory and the idea of interdependence.

In a general equilibrium framework, the supply of goods and services equals demand for these goods and services. This means that in our economy there is complete adjustment of production and consumption so that all products and all factors of production are cleared at given market prices. In the context of this study, based on an input-output framework, within a given period, production by various industries of goods and services adjusts to the requirements of the individual industries in their production of various intermediate commodities and to the requirements of final demand by consumers, government, trade and inventories. Production input requirements include materials - both raw and intermediate commodities - and primary inputs of labour and capital. These may be met from domestic production or from imports. The system is considered to be balanced and in a state of equilibrium because the value of total inputs is always equal to that of total outputs.

Input-output theory, as developed by Professor Wassily W. Leontief, is considered to be "...the simplest form of Walrasian general equilibrium; its form is so simple that it holds out the hope of empirical statistical measurement"[1].

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[1]Robert Dorfman, Paul A. Samuelson and Robert M. Solow, Linear Programming and Economic Analysis, (Toronto:McGraw Hill Book Company, 1958) p. 204.

This study will thus assume interdependence between agricultural and non-agricultural industries; and among agriculture related industries especially food manufacturing industries. While some of these relationships are very small and indirect, there is a significant number of very strong direct interrelationships. It is also assumed that these relationships are not necessarily perfectly stable over time, i.e.,in the long run, due to adjustments in the economy in response to supply and demand changes. Supply and demand changes are further affected by technological changes that affect the substitutability of products, both in production and consumption, and changes in production functions. It may be argued that substitutability is more intense in the long run due to reasons related to adjustment lags, and in agriculture this tends to be particularly true. These reasons, discussed by Scherer[2] in the industrial market structure context, are given as consumer habit, short run demand price inelasticity, rigidities constraining industrial purchasers, and high prices as a factor inducing inventions and development of substitute products. The interest in these relationships thus lies in the magnitude of structural interdependence and the changing nature of this interdependence over time. Considering the complexity of economic systems, it is important to have an approach that can give the simplest representation of the system, though not making it absolutely clear. At any one point in time, an input-output table will give a snapshot of the structure of an economy at that given time.

Interdependence is very central to input-output theory because

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[2]F.M. Scherer, Industrial Market Structure and Economic Performance, Rand McNally College Pub. Co. Chicago (1970) pp. 214-215.

production of commodities by one sector of an economy, say agriculture, requires both primary and material inputs, the latter being products of other industries within and outside the agricultural sector. In turn, production by other sectors requires material inputs originating from agriculture or agriculture related industries. The nature of these requirements amount to interdependence relationships, both direct and indirect between sectors, industries and commodities. In general it may be said that interdependence between economic units, sectors, industries or commodities, exists when activities or changes in one unit affect the activities and thus cause changes in one or more other units. Further, if we assume that economic efficiency or health is a desirable objective by the individual sectors, as well as by the entire economy of any country, then the argument by Josling and Trant[3] that economic health requires knowledge of how much a sector depends upon the prosperity of other sectors might be very appropriate. For economies where government plays an important part, possible effects of policies should be carefully examined. However, as Josling and Trant further note, it is necessary to know not only the effect on that sector directly influenced by a certain policy, but also the side effects on other sectors, which might conceivably be even greater than the direct effects. Thus, the purpose of studying the relationships of agriculture to the rest of the economy and the changes in these relationships that may occur over time is in line with or contributes to the objective of an efficient agricultural sector.

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[3] J.T. Josling and G.E. Trant, "An empirical study of interdependence among agricultural and other sectors of the Canadian economy" Pub. No. 2. A.E.R.C.C. (1966) p. 2.

Comparative static input-output theory postulates that the equilibrium of an economy at one period, as represented by an input-output table, can be compared to an equilibrium of the same economy at another period in time. The comparison shows the differences in the combinations of inputs and outputs - the economic structures - at the two or more different periods. It is like looking at two or more snapshots of the economy, one from each period. The major criticism of the static input-output approach relates to the lack of details on what happens between two comparative periods. Given the size of variables we are dealing with, comparing pictures of different time periods and obtaining information on the trend of things is indeed useful in establishing some understanding of a few events in between periods. Improving the accuracy and amount of detail that goes into an input-output table plus the establishment of more realistic input-output models are the two major ways in which this approach can be made more useful to economic analysis.

Structural Change: A Definition

Structural change, the subject of this study, has been defined in various ways as was shown briefly in the above chapter. Definitions depend very much on the particular approaches adopted by the economists and the emphasis of their studies. The definitions by Carter and by Staglin and Wessels fall in line with that of Leontief; they all consider structural change to refer basically to changes in the structural matrix made up of input-output coefficients which describe the combinations of input ratios to outputs. All three also agree that structural changes may result from changes in technology - which according

to Carter involves changes in the shape of the production functions - and from changes in final demand, though Carter does not spell out the last cause very clearly. Carter adds that structural change is also caused "by long run and short run substitution of inputs within the context of a given production function, which may arise as a result of changes in relative prices of various inputs"[4]. It may be argued that long and short run substitutions of inputs may indeed be influenced by changes in the quality of product demanded for final consumption, especially for personal consumption and export demand.

Kuznets adds a total product approach. Structural change here is considered to mean "the shift in the share of total or finished output, besides changes in value added, capital invested, changes in tastes, technology or institutional arrangements"[5]. Faluvégi describes structural change as the substance and permanent aspect of development. Faluvégi[6] also takes product or commodity change, industry change and materials change approaches which he believes to cause a continuous modification of an economic structure. As to the causes of structural change, in addition to changes in technology and final demand, Faluvegi introduces changes in scientific knowledge, changes in world economic conditions and in the given socio-political system. He argues that an efficient economic structure is one which ensures an optimum growth in national income while simultaneously meeting acceptable social requirements like full employment. However, Faluvégi further argues that in

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[4]Carter, op. cit., pp. 10-13.

[5]Simon Kuznets, Modern Economic Growth: Rate, Structure and Spread, (New Haven: Yale University Press, 1966) p. 14.

[6]Faluvégi, op. cit., pp. 145-146.

order for national income to increase continuously and at a most favourable rate, the economic structure has to keep changing.

Lastly a look at Ozaki's definition of structural change seems to adequately co-ordinate the above definitions. Ozaki defines structural change as "a change in resource allocation patterns caused by changes both in production technology and in demand"[7]. These are the very factors which come out most in all the above considered definitions. In addition Ozaki has attributed the large amount of structural change experienced by Japan, between 1955 and 1970, to the high rate of growth after the war and a sustained high annual growth rate over 20 years. This falls in line with Faluvégi's argument that connects the continous increase and favourable rate of national income to continuous structural change.

For purposes of this study, structural change in the Canadian agricultural economy refers first to the changes in the allocation of inputs or their combinations from one period to another in the production and marketing of agricultural and related output both intermediate and final. Secondly, the term will refer to changes in the types and levels of output. In both cases the changes are attributed mainly to changes in technology and final demand. This study strongly maintains that efficient planning of agricultural resource use, agricultural production and disposition will inevitably require as much understanding of the meaning, causes, nature and impact of structural change on the agricultural and related industries as can possibly be achieved. It is a

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[7] Ozaki, op. cit., p. 108.

strong belief of the author that the approach adopted here is one way of achieving a reasonable amount of this kind of understanding.

The Model for the Canadian Economy with Emphasis on Agriculture

The model to be used in this study is an "Open Comparative Static Input-Output Model" based on the "Open Output Determination Model" developed by Statistics Canada. It is open in the sense that it includes 14 final demand and 4 primary inputs categories which are autonomous or exogenous to the system, along with 35 industries and 132 intermediate commodities which are endogenous. The model is also considered static since it represents just a snapshot of the economy at any one point in time. Each of the 35 industries is a producer of some of the 132 commodities and a consumer of some of these commodities; thus industries and commodities are functionally interdependent. The industry, commodity and final demand classifications used in this model are as established by Statistics Canada in the document, The Input-Output Structure of the Canadian Economy 1961-1971[8]. The disaggregations are also taken from the above named document except that there is greater disaggregation - Large (L) and Medium (M) - for agricultural related industries and commodities, and small (S) disaggregation for other sectors of the Canadian economy. This was done because the emphasis of the study is on the agricultural and related industries.

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[8] Statistics Canada (Input-Output Division), The Input-Output Structure of the Canadian Economy 1961-1971 (March 1977) Cat. No. 15-506E Occasional pp. 19-21.

The Accounting Framework

Chart 3.1 gives a schematic presentation of the accounting framework of the Canadian Input-Output tables and follows closely the format of Chart I in Statistics Canada's document[9]. The model will consist of a value of output matrix V, which is also known as the "Make Matrix", showing the values of production of each commodity produced by each industry valued at producer's prices. Column vector q shows the values of total commodity outputs. Matrix U, also known as the "Use matrix", depicts the disposition of each commodity to each using industry for production of other commodities. Column vector g shows the values of total industry outputs. Commodity disposition, Matrix U, is valued at purchaser's prices.

Matrix F depicts the values of commodity inputs which go to final demand. Generally, final demand is divided into five categories namely household consumption, fixed capital formation, government, inventories and trade. The accounting framework of the Canadian input-output tables use a total of 136 categories for the large (L) aggregation of final demand[10]. A medium (M) aggregation to 14 categories will be used in this study, and these categories are:

1. Consumer expenditure, durable	Personal expenditure on goods and services.
2. Consumer expenditure, semi-durable	
3. Consumer expenditure, non-durable	
4. Consumer expenditure, services	

[9] Ibid., p. 13.

[10] Statistics Canada, op. cit., p. 21.

Chart 3.1

The Accounting Framework of Canadian Input-Output Tables

	Commodities	Industries	Final Demand Categories	Total
			1 2 3 4 5 6 7 8 9 10 11 12 13 14	
Commodities		U_{132x35}	F_{132x14}	q_{132x1}
Industries	V_{35x132}			g_{35x1}
Unallocated imports and exports Non-competing imports		I_{2x35}	I^*_{2x14}	
Primary Inputs Indirect taxes Labour income Net income of unincorporated business Other operating surplus		YI_{4x35}	YF_{4x14}	n_{4x1}
Total	$q^*(= q)_{1x132}$	$g^*(= g)_{1x35}$	e^*_{1x14}	

5.	Construction, business	Fixed capital formation Business and government
6.	Construction, government	
7.	Machinery and expenditure, business	
8.	Machinery and expenditure, government	
9.	Inventories, additions (+) and withdrawals (-)	Inventories
10.	Domestic exports	Trade
11.	Re-exports	
12.	Imports (-)	
13.	Gross government current expenditure	Government
14.	Government revenue from the sale of goods and services (-)	Government

The values of commodities for final demand are at producer's prices. The negative sign on inventory withdrawals, imports and government revenue is for balancing domestic production and the accounting framework. In this model, the values of total material inputs plus the values of commodity requirements for final demand always equal the values of total commodity output, thus balancing supply and disposition.

Matrix I depicts unallocated imports and exports and non-competing imports of commodities used in the production of other commodities. Matrix I* depicts values of unallocated imports and exports and non-competing exports which go to final demand. Matrix YI gives the values

of primary inputs to industries. These inputs are divided into labour and capital. Matrix YF depicts values of primary inputs to final demand categories. Column vector n shows the total values of primary inputs to industries and final demand.

Chart 3.1 has features not characteristic of the conventional input-output tables; both the inputs and outputs of industries are classified in two ways, according to the commodity produced or used and according to the producing or using industry. Also, the number of commodities is greater than the number of industries. This makes the system a commodity-by-industry and a rectangular rather than square system. This rectangular table is highly recommended by the United Nations[11] and is advocated by economists like Rosenbluth[12] and Leontief and Carter[13]. In Canada compilation of such rectangular input-output tables was first implemented for Quebec by Prof. Matuszewski of the University of Laval, and for the Atlantic provinces under direction of Prof. K. Levitt of McGill University.

Rosenbluth in his 1968 article[14] makes a plea for the abolition of the square or inter-industry analysis and for its replacement by the rectangular analysis. His plea is based on the belief that there is nothing inter-industry analysis can do that cannot be done equally well

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[11] Dominion Bureau of Statistics, The Input-Output Structure of the Canadian Economy 1961, Vol. 1, p. 34.

[12] G. Rosenbluth, "Input-Output Analysis; A Critique," in Statistiche Hefte, Vol. 9. No. 4. (1968) p. 255.

[13] Anne P. Carter and Wassily W. Leontief, "Survey of Current Business" July 1971, No. 7, Part 11, p. 31, Cited by Statistics Canada, op. cit., p. 11., Footnote 2.

[14] Rosenbluth, op. cit., pp. 255-268.

by commodity-by-industry analysis and that there are a good many things that the latter can do better. In general Rosenbluth maintains that it is the practical and the theoretical problems due to the lack of correspondence between commodities and industries that render the rectangular system of analysis preferable. To substantiate this he discusses briefly the factors that contribute to these problems.

First of all, Rosenbluth mentions that the conventional square system developed by Leontief was criticised particularly on the basis of the assumptions; "(i) that production functions typically call for the use of inputs in fixed proportions, regardless of possible variations in their relative prices or the level of output; and (ii) that the input coefficients of production functions are represented by the coefficients of the Leontief matrix"[15]. Rosenbluth realises that the first assumption remains to be criticised even in the commodity-by-industry analysis; it is the second assumption which he finds quite implausible "because the coefficients of the Leontief matrix are inter-industry coefficients"[16]. Thus the implausibility arises because industries today produce more than one commodity (and many commodities are produced in more than one industry) so that inter-industry coefficients do not represent commodity inputs to their productive processes nor to those producing single commodities.

Practically, Rosenbluth maintains that "even in the best developed of statistical systems, inter-industry coefficients are extremely

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[15] Ibid., p. 255.

[16] Ibid.

difficult to estimate. The necessary information is not obtainable"[17]. Later he presents and discusses evidence to support his claim of greater statistical accuracy offered by the rectangular system of analysis. Rosenbluth argues that commodity-by-industry tables overcome most of the guesswork problems encountered in compiling inter-industry tables; the data collection systems of most countries (the industrial census) lend themselves more easily to commodity-by-industry tables. First, "firms or establishments are required to list their outputs and inputs by commodity classes with quantities and values"[18]. Secondly, in the estimation of final demand, say for consumer expenditure, "sample budget surveys or retail sales statistics records are classified by commodity groups"[19]. Also, "foreign trade statistics are based on commodity classes, not industries"[20]. Rosenbluth further claims that commodity-by-industry tables are more up to date since they take less time to prepare.

The advantages of a rectangular format have more recently been recognised and advocated by Statistics Canada and in this respect Leontief and Carter are referred to as being in agreement with these advantages. The two major advantages identified are the ability of the rectangular format to admit as much detail as is available in the basic census sources and the straight forwardness of the meaning of each

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[17] Ibid., p. 256.

[18] Ibid., p. 258.

[19] Ibid.

[20] Ibid.

entry, because observed transactions are not combined with fictitious transfers[21].

The model as developed by the input-output division of Statistics Canada[22] has two basic assumptions and these may be represented as follows: (i) The "domestic market share" assumption postulates that industries will preserve their observed share of the market for each domestically produced commodity irrespective of the levels of commodity production. In other words this means that each commodity is produced by various industries in fixed proportions. Mathematically, the assumption is expressed in matrix form as:

$$g = Dq_{35x1} \qquad (3.1.1)$$

where g is a column vector of industry total outputs values, D is the domestic market share matrix - matrix of coefficients obtained by dividing each element in a column of the make matrix (matrix V) by the corresponding value of total commodity output in row vector q -.

That is: $\frac{V}{q} = D_{35x132}$ (3.1.2)

q is a column vector representing the values of total commodity outputs. (ii) The "industry technology" assumption is the basic Leontief "fixed proportions" assumption. This assumption establishes the production functions of industries which in turn determine the industry requirements for commodity inputs. It is assumed that the values of the inputs of each industry are fixed proportions of the value of the total output

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[21] See Statistics Canada, op. cit., p. 11, footnote 2.

[22] For a presentation of these assumptions see ibid, pp. 31-32. The presentations here follow this section closely.

of the industry, independent of the level of this output. In other words, to produce each dollar of output an industry requires certain fixed values of commodity inputs. This implies that technology is organised on an industrial basis so that roughly the same structure of inputs is appropriate for the various commodities produced by any one industry. Mathematically, this assumption may be expressed in matrix form as:

$$Ui = Bg_{132x1} \qquad (3.2.1)$$

where U is a matrix of commodity input values, i is a column vector whose elements equal unity, the matrix product Ui represents a vector of the sum of the intermediate inputs of all industries classified by commodity, q is a column vector of total commodity output values and matrix B is the industry technology matrix - a matrix of coefficients obtained by dividing each element in a column of matrix U by the corresponding total industry outputs.

That is: $$\frac{U}{g} = B_{132x35} \qquad (3.2.2)$$

The model further assumes 1) lineality of the production functions, 2) single value expectations and 3) constant returns to scale

$$Yn = f(K, L, I, t) \qquad (3.3.1)$$

Net Output

where K is indirect investment and depreciation or capital, L is Labour, I is material inputs and t is technological change.

$$Yn = A(t)\ [\beta_k K + \beta_L L + \beta_I I] \qquad (3.3.2)$$

where A(t) is the index of technological change, β_k is the elasticity of output with respect to K, β_L is the elasticity of output with respect to L, and β_I is the elasticity of output with respect to materials.

$$\frac{\Delta A(t)}{A(t)} = \frac{\Delta Yn}{Yn} - \beta_k \frac{\Delta K}{K} - \beta_L \frac{\Delta L}{L} - \beta_I \frac{\Delta I}{I} \quad [23] \qquad (3.3.3)$$

relative technological change — relative change in output — relative change in output due to K

The constant returns assumption may be expressed as:

$$\beta_k + \beta_L + \beta_I = 1 \qquad (3.3.4)$$

The mathematical expression of the accounting balance between total supply and total demand is as follows:

$$q = Bg + \overset{*}{e} + x - m - a - v \qquad (3.4.1)$$

where $\overset{*}{e}$ is a vector of values of final demand categories of personal expenditure, fixed capital formation, inventory additions and gross government current expenditure.

x is a vector of total exports values.

m is a vector of imports values.

a is a vector of government production values.

v is a vector of values of inventory withdrawals.

Combining equations (3.1.1) and (3.4.1) we get an "Open Output determination model", which defines the linear transformation of final demand categories into industry outputs.

$$g = (I - DB)^{-1} D (\overset{*}{e} + x - m - a - v) \qquad (3.4.2)$$

Equations (3.4.3) to (3.4.5) define the leakages in terms of imports, government production and inventory withdrawals respectively.

$$m = \hat{\mu} \quad (Bg + \overset{*}{e}) \qquad (3.4.3)$$

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[23] Following Solow's index described in Lester B. Lave, Technical Change: Its conception and measurement, (Prentice Hall Inc., 1966) Ch. 2.

where μ is a diagonal matrix of coefficients whose elements are the ratios of imports to use, where use is defined as $Bg + \overset{*}{e}$. This import share assumption implies that exports of a commodity are supplied from domestic industries that produce the commodity. However, exports may have imports indirectly embodied in them where producing industries import their intermediate inputs.

$$a = \hat{\alpha}\ (Bg + \overset{*}{e} + x) \qquad (3.4.4)$$

where $\hat{\alpha}$ is a diagonal matrix of coefficients obtained as the ratios of government production to use, use defined as $Bg + \overset{*}{e} + x$.

$$v = \hat{\beta}\ (Bg + \overset{*}{e} + x) \qquad (3.4.5)$$

where $\hat{\beta}$ is a diagonal matrix of coefficients calculated as ratios of withdrawals to use. To allow for leakages from the domestic industries, the leakages are specified as above and equation (3.4.1) is substituted to obtain equation (3.4.6).

Thus:

$$q = Bg+\overset{*}{e}+x-\hat{\mu}(Bg+\overset{*}{e})-\hat{\alpha}(Bg+\overset{*}{e}+x)-\hat{\beta}(Bg+\overset{*}{e}+x)$$

or

$$q = (I-\hat{\mu}-\hat{\alpha}-\hat{\beta})Bg+(I-\hat{\mu}-\hat{\alpha}-\hat{\beta})\overset{*}{e}+(I-\hat{\alpha}-\hat{\beta})x \qquad (3.4.6)$$

where I is an identity matrix.

Combining equations (3.4.6) and (3.1.1) we obtain equation (3.4.7) which is an "open output determination" model which allows for leakages out of the intermediate demand as well as the final demand. This is a rectangular system of n = 35 linear equations in m = 132 unknowns and is the general solution to the model.

$$g = [I-D(I-\hat{\mu}-\hat{\alpha}-\hat{\beta})B]^{-1}D\ [(I-\hat{\mu}-\hat{\alpha}-\hat{\beta})\overset{*}{e}+(I-\hat{\alpha}-\hat{\beta})x]_{35x132} \qquad (3.4.7)$$

where $[I-D(I-\hat{\mu}-\hat{\alpha}-\hat{\beta})B]^{-1}D_{35x132}$ defines an impact matrix while the rest of the equation defines final demand adjusted for leakages. The impact-matrix (or interdependence coefficients matrix) is rectangular with industries in the rows and commodities in the columns and it displays the direct and indirect impact of each dollar increase in final demand of each commodity upon each industry. For an industry producing two or more commodities, the impact coefficients will empirically remain the same for each of the industry row entries for the commodities. Thus the final demand multipliers (the totals of the impact coefficients columns) for each of these commodities produced by one industry alone will be the same.

The following is a list of industries and commodities to be used in the model.

The industries in the model will include:

1. Agriculture
2. Forestry
3. Slaughtering and meat processing
4. Poultry processing
5. Dairy factories
6. Fish products industries
7. Fruit and vegetable processing
8. Feed manufacturing
9. Flour and breakfast cereal industries
10. Biscuit manufacturing
11. Bakeries
12. Confectionery manufacturing
13. Sugar refineries
14. Vegetable oil mills
15. Miscellaneous food industries
16. Soft drinks manufacturing
17. Distillers
18. Breweries
19. Wineries
20. Leaf tobacco processing
21. Tobacco products manufacturing
22. Fishing, hunting and trapping
23. Mines, quarries and oil wells
24. Manufacturing except food
25. Communications
26. Transport and storage
27. Electric power, gas and other utilities
28. Wholesale trade
29. Retail trade
30. Finance insurance and real estate
31. Community business and personal service
32. Transport margins
33. Construction
34. Operation, office, laboratory & food
35. Travel and advertising promotion

The Commodities in this model will include:

1. Cattle and calves
2. Sheep and lambs
3. Hogs
4. Poultry
5. Poultry, fresh, frozen, chilled
6. Poultry canned
7. Other live animals
8. Beef, veal, mutton, pork-fresh and -frozen
9. Horse meat fresh, chilled, frozen
10. Meat cured
11. Meat, prepared, cooked not canned
12. Meat, prepared canned
13. Animal oils and fats and lard
14. Margarine, shortening and like products
15. Sausage casings, natural and synthetic
16. Primary tankage
17. Milk, whole, fluid, processed
18. Milk, whole, fluid, unprocessed
19. Fresh cream
20. Butter
21. Cheese, cheddar and processed
22. Milk evaporated
23. Ice cream
24. Other dairy products
25. Rice unmilled
26. Wheat unmilled
27. Barley, oats, rye, corn, grain nes.*
28. Wheat flour
29. Fruits, fresh, except tropical
30. Vegetables, fresh
31. Vegetables fresh, frozen, dried and preserved
32. Vegetables and preparations canned
33. Fruits, berries, dried, crystalized
34. Fruits and preparations canned
35. Eggs in the shell
36. Nuts, edible, not shelled
37. Seeds except oil and seed grades
38. Oil seeds, nuts and kernels
39. Nuts, kernels and seeds prepared
40. Meal and flour of other cereals and vegetables
41. Breakfast cereal products
42. Biscuits
43. Bread and rolls
44. Other baking products
45. Cocoa and chocolate
46. Chocolate confectionery
47. Other confectionery
48. Sugar
49. Molasses, sugar refinery products
50. Oilseed, meal and cake
51. Maple sugar and syrup
52. Prepared cake and similar mixes
53. Beet pulp
54. Soups, dried and soup mixes and bases
55. Coffee, roasted, ground, prepared
56. Tea
57. Potato chips and similar products
58. Miscellaneous food nes.*
59. Soft drink concentrates and syrup
60. Carbonated beverages soft drinks
61. Soups canned
62. Pickles, relishes, other sauces
63. Vinegar
64. Other food preparations
65. Fish products
66. Mustard mayonnaise
67. Honey and beeswax
68. Malt, malt flour and wheat starch
69. Alcoholic beverages distilled
70. Alcohol, natural ethyl
71. Brewers and distillers' grains
72. Ale, beer, stout and porter
73. Wines
74. Tobacco processed, unmanufactured
75. Cigarettes
76. Tobacco manufactured except cigarettes
77. Tobacco raw
78. Vegetable oils and fats, crude
79. Feeds of animal origin nes.*
80. Primary or concentrated feeds
81. Feeds for commercial livestock
82. Feeds, grain origin nes.*
83. Feeds of vegetable origin nes.*
84. Pet feeds
85. Infant and junior foods canned
86. Hops including lupulin
87. Hay forage and straw
88. Hides and skins, raw nes.*
89. Mink skins, ranch and undressed
90. Wool in grease
91. Services incidental to agriculture and forestry
92. Forestry products
93. Fishing and trapping products
94. Textile products
95. Knitted products and clothing
96. Lumber, sawmill, other wood products
97. Furniture and fixtures
98. Paper and paper products
99. Printing and publishing
100. Metallic dyes and concentrates
101. Minerals fuels
102. Non-metallic minerals
103. Services incidental to mining
104. Primary metal products
105. Metal fabricated products
106. Non-metallic minerals products
107. Pet and coal products
108. Chemicals, chemical products
109. Nitrogen function compounds nes.*
110. Autos, trucks, other transportation equipment
111. Transportation and storage
112. Electric and communications products
113. Communications services
114. Other utilities
115. Miscellaneous manufactured products
116. Non-residential construction
117. Repair construction
118. Rubber, leather, plastic products
119. Wholesale margin
120. Retail margin
121. Other finance, insurance and real estate
122. Business services
123. Personal and other miscellaneous services
124. Transportation margin
125. Operating office and lab and food
126. Travel, advertisement and promotion
127. Imputed rented owner occupied dwellings
128. Machinery and equipment
129. Residential construction
130. Nursery stock and related material
131. Animal material for drugs and perfume
132. Custom work meat and food

*Nes. Not elsewhere specified

CHAPTER IV

METHODOLOGY

(i) Restatement of the Problem

Briefly, the problem which underlies this study, as given in Chapter I, section two, is that structural change in the Canadian agricultural economy and related industries is not well defined. This is because little attention has been given to the subject; the little related information available is scanty and insufficient; and there are problems in defining the word "structure" and the variables thereof.

(ii) The Hypothesis

The hypothesis set up for this study is that there were major structural changes - changes in the allocation of inputs or their combinations from one period to another in the production and marketing of agricultural and related output both intermediate and final; and changes in types and levels of output - in the Canadian agricultural and related industries between 1961 and 1971. It is further hypothesised that these changes can be adequately measured using any or all the six measures established below. This hypothesis will be descriptively tested and conclusions will be made based on the results of each as well as a combination of measures using the statistics developed from the industry output, commodity output and final demand matrices.

(iii) The Measures

The analysis in this study will depend on a few of the various methods which can be devised to describe, in summary, the various

aspects of structural change. The six measures which have been chosen to be used in this study include:

1. Changes in individual technical input-output coefficients.

2. Changes in intermediate material and primary factors of production.

3. Changes in impact coefficients, which indicate the changes in direct and indirect requirements of inputs per dollar of delivery of commodity output to final demand, and in final demand multipliers, which represent the total impact of each commodity on the entire economy.

4. The level and changes in percent of domestic commodity output that goes to final demand as compared to the percent that is for intermediate use.

5. Changes in the actual number of material inputs used and outputs made by each industry.

6. Changes in compound or component growth rates of output.

The commodity-by-industry input-output tables and the impact matrices used for this structural analysis are all in value terms of 1961 dollars and were obtained from Statistics Canada. The coefficients presented in this study are interpreted as value ratios. The basic data in the input-output tables was deflated by Statistics Canada to 1961 prices by means of 138 appropriate commodity price indices[1]. This was necessary in order to make meaningful comparisons of inputs per dollar

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[1]This information is obtained from a seminar paper "Structural change and forecasting: An input-output approach" by Paul Banerjee, Dept. of Agricultural Economics, University of Manitoba. Mr. Banerjee, with the help of others in the Agricultural Economics Department, was responsible for the collection of all primary data for this study from Statistics Canada.

of output, since in view of changing prices and inflation the "dollar's worth" expression would be a changing unit.

The measures are described as follows:

1. The first measure involves looking at changes in individual direct material requirements for the production in each of the using industries between 1961 to 1966 and 1966 to 1971. These requirements are presented as technical coefficients or material input-output ratios per dollar of industry output. To calculate these coefficients the commodities were first carefully aggregated into 35 groups, as shown in Table A, thus forming a square "use" matrix. Technical coefficients (aij's) were then calculated by dividing the value of total commodity group inputs to a particular industry (xij) by the total value of that industry's output (Xj). The coefficient aij thus shows the value ratio of material inputs from one commodity group i which is required to produce a dollar's worth of output in a particular industry j in a given period. Thus:

$$aij = \frac{xij}{Xj} \qquad (4.1.1)$$

Using the coefficient data thus obtained, three way scatter diagrams were constructed, as presented in Appendix B, two for each commodity group for the two periods, to show the large and small coefficients for a given row and how these change over the two periods under study. Each axis of the diagrams, in logarithmic scale, measures direct material input-output values for a particular year and the 45-degree line in each half helps to determine whether coefficients were larger in one year than in another. Each point represents the value of the sum of the two years' coefficients for each consuming industry which

Table A. Aggregations of 132 Commodities into 35 Groups

1. Fresh & frozen meats	5. Poultry, fresh, frozen, chilled	57. Potato chips & similar products	18. Forestry products
	8. Beef, veal, mutton, pork - fresh & frozen	58. Miscellaneous food nes.*	92. Forestry products
	9. Horse meat, fresh, chilled, frozen	59. Soft drink concentrates & syrup	96. Lumber, sawmill, other wood products
2. Live animals	1. Cattle and calves	60. Carbonated beverage soft drinks	97. Furniture & fixtures
	2. Sheep and lambs	61. Soups canned	98. Paper & paper products
	3. Hogs	62. Pickles, relishes, other sauces	19. Textiles & clothing
	4. Poultry	63. Vinegar	94. Textile products
	7. Other live animals	64. Other food preparations	95. Knitted products & clothing
3. Prepared & processed meats & products	6. Poultry canned	65. Fish products	20. Printing & publishing
	10. Meat cured	66. Mustard mayonnaise	99. Printing & publishing
	11. Meat, prepared, cooked not canned	67. Honey and beeswax	21. Metallic mining & products
	12. Meat prepared canned	85. Infant & junior foods canned	100. Metallic ores & concentrates
	13. Animal oils and fats and lard	45. Cocoa and chocolate	104. Primary metal products
	15. Sausage casings, natural & synthetic	46. Chocolate confectionery	105. Metal fabricated products
4. Dairy products	17. Milk, whole, fluid, processed	47. Other confectionery	22. Non-metallic mining & products
	18. Milk, whole, fluid, unprocessed	48. Sugar	102. Non-metallic minerals
	19. Fresh cream	49. Molasses, sugar refinery products	106. Non-metallic mineral products
	20. Butter	51. Maple sugar and syrup	23. Minerals fuels, petroleum & coal products
	21. Cheese, cheddar & processed	52. Prepared cake & similar mixes	101. Minerals fuels
	22. Milk evaporated	53. Beet pulp	107. Petroleum & coal products
	23. Ice cream	14. Margarine, shortening & like products	24. Chemicals & products
	24. Other dairy products	38. Oilseeds, nuts and kernels	108. Chemicals & chemical products
5. Rice unmilled & products	25. Rice unmilled	50. Oilseed, meal & cake	109. Nitrogen function compounds nes.*
6. Fresh fruits & vegetables	29. Fruits, fresh, except tropical	35. Eggs in the shell	25. Transportation equipment
	30. Vegetables fresh	68. Malt, malt flour & wheat starch	110. Autos, trucks, other transportation equipment
7. Grains including wheat & flour	26. Wheat unmilled	69. Alcoholic beverages distilled	26. Transportation, storage & transportation margins
	27. Barley, oats, rye, corn, grain nes.*	70. Alcohol, natural ethyl	16. Primary tankage
	28. Wheat flour	71. Brewers' & distillers' grains	111. Transportation & storage
	40. Meal & flour of other cereals & vegetables	72. Ale, beer, stout & porter	124. Transportation margin
8. Dried & processed fruits & vegetables & products	31. Vegetables fresh, frozen, dried & preserved	73. Wines	27. Miscellaneous manufactured products
	32. Vegetables & preparations canned	86. Hops including lupulin	112. Electric & communications products
	33. Fruits, berries, dried, crystallized	74. Tobacco processed, unmanufactured	115. Miscellaneous manufactured products
	34. Fruits & preparations canned	75. Cigarettes	118. Rubber, leather, plastic products
	37. Seeds except oil and seed grades	76. Tobacco manufactured except cigarettes	28. Communication services
	39. Nuts, kernels & seeds prepared	77. Tobacco raw	113. Communication services
	78. Vegetable oils & fats, crude	79. Feeds of animal origin nes.*	29. Nursery stock & related materials
9. Miscellaneous foods	36. Nuts, edible, not shelled	80. Primary or concentrated feeds	130. Nursery stock & related materials
	41. Breakfast cereal products	81. Feeds for commercial livestock	30. Services
	42. Biscuits	82. Feeds, grain origin nes.*	91. Services incidental to agriculture & forestry
	43. Bread and rolls	83. Feeds of veg. origin nes.*	108. Services incidental to mining
	44. Other baking products	84. Pet feeds	122. Business services
	54. Soups, dried & soup mixes & bases	87. Hay, forage & straw	123. Personal & other miscellaneous services
	55. Coffee, roasted, ground, prepared	88. Hides & skins, raw nes.*	126. Travel, advertisement & promotion
	56. Tea	89. Mink skins, ranch & undressed	114. Other utilities
10. Confectioneries		90. Wool in grease	31. Other utilities
		93. Fishing & trapping products	116. Non-residential construction
11. Sugar, maple sugar & refinery products		131. Animal material for drugs & perfume	32. Construction
			117. Repair construction
			129. Residential construction
12. Oilseeds & products			33. Wholesale & retail margins
			119. Wholesale margin
13. Eggs			120. Retail margin
14. Alcohol ingredients & products			34. Machinery & equipment
			128. Machinery & equipment
			35. Other material inputs
15. Tobacco and products			121. Other finance, insurance & real estate
			125. Operating office & laboratory & food
16. Feeds of animal & vegetable origin			127. Imputed rent owner occupied dwellings
			132. Custom work meat & food
17. Fishing, trapping, porching & products			

is identified by the number appearing next to each point. Coefficients that were larger in 1966 than in 1961 appear above the 45-degree line in the left diagrams; and those which were larger in 1971 than in 1966 appear below the 45-degree line in the right diagrams. The coefficients which had no change are right on the line. Clustering on one side of the line is interpreted as representing movement (increase or decrease) of coefficients in the same direction. The distances from the 45-degree line measures relative rates of coefficient change from one year to another[2]. Two extra diagrams were constructed for changes in coefficients for all commodity inputs into the agriculture industry.

2. The second measure involves looking at the proportions of factor costs - labour, current capital and material costs - for each industry and then for all industries together. The total and individual input costs per dollar of output for each industry for the three years under study were calculated as presented in Table 2a in Chapter five. First, individual input cost values per industry were calculated by dividing the sums of each input value for each industry by the total value of that industry's output. Adding the three individual input cost values we obtain the total input cost value for each industry. Further, percentage shares of this total input cost by the three individual inputs were calculated by expressing the individual cost values as percentages of the total per dollar value of

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[2]The description of the three way scatter diagrams is based on that given by Carter, op. cit., p. 24.

industry output for each year and these are shown in Table 2b. The percentages were then used to construct bar graphs, given in Figures 1 to 4, first for each input category arranged by industry and then for the three input categories arranged by industry. Similar graphs are constructed for all industries combined.

3. Thirdly, changes in impact coefficients and final demand multipliers are used to show structural change. The impact coefficients, which form the rectangular impact matrix defined by the equation $[I-D(I-\mu-\alpha-\beta)B]^{-1}D_{35x132}$, indicate the direct and indirect requirements of inputs per dollar of delivery to final demand. Of particular interest in respect to the impact coefficients are the similarity of coefficients for commodities produced by only one industry, say agriculture, and the commodities that display relatively high impact values.

The final demand multipliers are the totals of all the impact coefficients for each commodity. Thus the multipliers indicate the total impact on the economy in terms of value of extra production that is required for a dollar increase in the final demand of a given commodity. In other words, a dollar's expenditure on final consumption of a given commodity is expected to stimulate a level of output worth the value of that commodity's final demand multiplier. The multipliers in Table 3a were ranked by value up to 109, 115 and 110 ranks for the years 1961, 1966 and 1971, with equal values getting the same rank. Percentage changes in these multipliers were calculated for the two periods under study and positive and negative signs were used to indicate increases and decreases respectively.

4. The fourth measure looks at the percent of domestic commodity output value that goes to final demand in comparison to the percent

that is for intermediate use. The lower the percentage of output to final demand the greater is the commodity's dependence on processing or intermediate use for other commodities' production. The percentages are obtained by taking first the difference between total domestic commodity output and the total value of that commodity used by the various domestic industries. Then the difference, if any, is expressed as a percentage of total domestic commodity output and these percentages are given in Table 4 of Chapter V. In cases where the values of output used exceeded that produced, it was assumed that no domestic output reached final demand.

5. Measure number five deals with changes in the actual number of material inputs used and number of commodities produced by each industry over the three years. The data for this measure was obtained by simply counting the entries under each industry in both the "use" and "make" matrices for the three years and is presented in Table 5 of Chapter V.

6. The sixth and last measure looks at changes in component annual growth rates of industrial output between the two sub-periods and over the entire study period and the rates are given in Table 6 of Chapter V. The formulas used to claculate the sub-period rates are:

$$Y_{61} \times (1+i)^t = Y_{66} \qquad (4.6.1)$$

$$Y_{66} \times (1+i)^t = Y_{71} \qquad (4.6.2)$$

where Y_{61}, Y_{66} and Y_{71} are the outputs for 1961, 1966 and 1971 respectively, i is the rate of growth and t(= 5) refers to the time period in years. The rate for the period 1961 to 1971 is the average of the two sub-period component growth rates. Of particular interest here are the levels of these rates and any major changes in them over the years.

CHAPTER V

Results and Their Implications

The following is a description and discussion of the results of the six measures, described in Chapter IV and their implications on decisions pertaining to production, consumption, accumulation and trade of outputs and inputs. The results of each measure are given and discussed, interpretations made and, where possible, conclusions are drawn in respect to the structural change hypothesis. Where applicable, comparisons of this study's results are made with those obtained in other reviewed studies, especially that by Carter. Major emphasis will be given to results of agricultural industries and products, since structural change in the Canadian agricultural economy is the subject of this study.

1. Measure I

Measure I is based on changes in individual technical input-output coefficients, that is changes in individual direct material requirements for the purpose of production by each using industry from 1961 to 1966 and 1966 to 1971. The results of this method are presented in Table 1 of Appendix A and in the scatter diagrams 1 to 35 given in Appendix B. Table 1 presents material input-output coefficients for the aggregated commodity groups arranged by industry for the three periods under study. The scatter diagrams summarise the statistics for each commodity group in each sub-period and there is a summary of statistics for the commodity inputs into the agriculture industry, also for the two sub-periods. As described

in section one of Chapter IV, each axis of the diagrams, in logarithmic scale, measures direct material input-output values for a particular year and the 45-degree line in each half helps to determine whether coefficients were larger in one year than in another. Each point represents the value of the sum of the two years' coefficients for each consuming industry which is identified by the number appearing next to each point. Clustering of points on one side of the line is interpreted as a movement (increase or decrease) of coefficients in the same direction. For more details on reading these graphs see section 1 of Chapter IV.

Among the agricultural commodity input groups, the following showed major changes in their input-output coefficients or use value ratios by various industries. For miscellaneous foods, eggs, fishing, trapping, poaching and products, and textiles and clothing there was clustering of most points below the 45 degree line in the left diagrams and above the line in the right diagrams; this is interpreted to mean a general decreasing trend in the input-output coefficients of these commodity groups in both sub-periods. In other words the value ratios of the above mentioned commodity groups for a dollar's worth of production by most of the user industries were declining over the entire study period. For fresh and frozen meats, sugar, maple sugar and refinery products, and forestry products there was a decreasing trend in input-output coefficients only between 1961 and 1966. Fresh fruits and vegetables, grains including wheat and flour, confectioneries, alcohol ingredients and products, and tobacco and products commodity groups all displayed

a generally decreasing trend only between 1966 and 1971. In fact grains exhibited opposite movements over the study period, generally increasing coefficients in the first sub-period and generally decreasing coefficients in the second sub-period. Live animals is the only other agricultural commodity input group whose coefficients were generally on the increase, but only in the first sub-period of the study, as shown by the clustering of most points above the 45-degree line in the group's left hand diagrams.

The last two scatter diagrams, representing the results on commodity input groups into the agriculture industry, showed that most of the value ratios of material inputs into agriculture had a general decreasing trend over both sub-periods of the study; thus in general agriculture directly spent less and less on most material inputs per dollar of agricultural output.

For the rest of the economy, minerals, fuels, petroleum and coal products, and construction commodity groups showed a general decrease in input-output coefficients in both periods. A general increasing trend in coefficients was noted for transportation equipment and for wholesale and retail margins coefficients between 1961 and 1966, and for communication services and services coefficients between 1966 and 1971. Thus general services here displayed an increase in the value of their use ratios per dollar of output by the majority of industries in the Canadian economy. Commodity groups that showed no considerable changes in their coefficients may have changed too marginally to be noticed, remained fairly constant over one or both sub-periods or moved equally in both directions in

each period thus producing a cancelling effect.

Concentration of points on the upper sides of the 45-degree lines indicates particularly high coefficient sums irrespective of changes in them. This may be interpreted to mean that some material input categories account for high value ratios per dollar of output in a majority of industries over the study period. Such commodity groups include; forestry products (with points ranging between 0.01 and 0.2), transport, storage and transport margins (0.02-1.0), services (0.02-0.4), other utilities (0.01-0.1), wholesale and retail margins (0.02-0.2), and other material inputs (0.02-0.4). It is interesting to note that these are mainly general service inputs and that among their highest users are the general service industries themselves. This finding is in line with that of Carter[1] in respect to the American economy.

It is difficult to make any strong conclusions about structural change by looking only at changes in individual commodity group coefficients. This is because, as Carter[2] noted, changes in individual direct input-output coefficients do not generally occur independent of one another. It is expected that "each coefficient change is part of a complex of interrelated shifts in which the specialised roles of individual supplying sectors" (in this case, commodity groups) "are realigned". Thus indirect linkages that do exist between input groups must be taken into account.

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[1] Carter, op. cit., p. 51.

[2] Ibid., p. 25.

Looking at the graphs from a different angle, we note that some commodity groups were demanded as material inputs by a few, some by the majority, while others by almost all industries. Table B below gives the commodity groups included in the three different categories.

Table B. Three Categories of Agricultural Related Commodity Groups Demanded by Industries

Category / Commodity Group	1 ≤16 Industries	2 >16 <25 Industries	3 ≥25 Industries
	1. Fresh and frozen meats (8)[a]	1. Fresh fruits and vegetables (18)[d]	1. Forestry products (31)
	2. Live animals (6)	2. Grains including wheat and flour (19, 18, 18)	2. Textiles and clothing (26)
	3. Prepared and processed meats and products (12)	3. Dried and processed fruits, vegetables and products (20)	
	4. Dairy products (14)	4. Miscellaneous foods (21)	
	5. Rice unmilled (3)	5. Sugar, maple sugar and refinery products (19)	
	6. Fresh fruits and vegetables (16)[b]	6. Alcohol ingredients and products (18)	
	7. Confectionery (10)		
	8. Oilseeds and products (13, 13, 14)[c]		
	9. Eggs (8, 7, 7)		
	10. Tobacco and products (2, 2, 3)		
	11. Feeds of animal and vegetable origin (11)		
	12. Fishing, trapping, poaching and products (8)		
	13. Nursery stock and related materials (4)		

Continued.....

Table B (continued)

[a]Number in brackets indicates the total number of industries demanding a given commodity group over the entire study period.

[b]Number in brackets refers only to years 1961 and 1966.

[c]Each number corresponds to each of the three study periods.

[d]Number in brackets refers only to year 1971.

Almost all the commodity groups included in categories one and two are agriculture related. These commodities may be considered to be fulfilling or providing specific needs to their using industries in case of the first category and fulfilling a variety of industrial manufacturing needs in the case of category two. Also it may be noted that there were no major changes in agricultural commodity groups use by industries over the study period.

Looking at the requirements of the agricultural industry, we observed that this was an average consuming industry, demanding 23 to 24 of all the commodity groups in its production processes. The major implication that may be drawn here is that while the agricultural industry is itself an average consumer of both specific and non-specific commodity groups, agricultural commodities meet most particularly the specific needs of agricultural manufacturing and service industries. It may be concluded that these relationships tended to remain constant for most commodity groups. However, as noted above, this is a very general measure and a look at other measures may help to establish more and even better conclusions.

2. Measure II

The second measure is based on changes in the intermediate (material) and primary factors of production, namely labour and capital. The results of this measure are presented in Tables 2a and 2b, and the bar graphs in Figures 1 to 4. Table 2a presents the total and individual input costs per dollar of output for each industry, for the three periods under study. This same table also gives the average industry total and individual average input costs per dollar of output to an average industry. Table 2b presents the percentage shares of individual inputs for each industry and an average for all industries for the three periods. The bar graphs are based on the statistics in Table 2b.

The results of Table 2a show that among agricultural industries, primary agriculture had the highest total cost of inputs per dollar of its output of $2.5867553 in 1961, $3.0308769 in 1966 and $2.771050 in 1971. These costs were mostly attributed to capital - $1.2636131, $1.6926945 and $1.3588739 - and to materials - $1.1032837, $1.1618632 and $1.2026809 - in the three periods respectively. The net effect of changes in individual costs was that total input costs per dollar of primary agricultural output increased over the study period, particularly so between 1961 and 1966 as primary agriculture became more capital intensive and slightly less labour intensive in the same period. Primary agriculture material costs were also on the increase, though more slowly.

The highest ten rankings of total costs per dollar of output for agricultural industries over the three time periods under study are

given in Table C1.

Table C1. The Ten Highest Total Cost Agricultural Industries

Rank \ Year & Range	1961 ($2.58-0.44)	1966 ($3.03-0.54)	1971 ($2.77-0.62)
1.	Agriculture	Agriculture	Agriculture
2.	Slaughtering and meat processing	Slaughtering and meat processing	Slaughtering and meat processing
3.	Forestry	Forestry	Forestry
4.	Bakeries	Bakeries	Bakeries
5.	Dairy factories	Dairy factories	Wineries
6.	Tobacco products manufacturing	Confectionery manufacturing	Confectionery manufacturing
7.	Confectionery manufacturing	Tobacco products manufacturing	Dairy factories
8.	Fishing, hunting and trapping	Fishing, hunting and trapping	Tobacco products manufacturing
9.	Sugar refineries	Flour and breakfast cereal	Miscellaneous food
10.	Miscellaneous food	Miscellaneous food	Fishing, hunting and trapping

Total input costs per dollar of output for agriculture and related industries were far below the Canadian economy industry averages of $4.6845378 in 1961, $4.9241826 in 1966 and $6.629663 in 1971. It may be noted that most of these industries maintained their ranks throughout or for the greater part of the study period.

Table 2a. Total cost and individual input costs per dollar of output in 1961, 1966 and 1971

Industry	Input value per dollar of output	Total value of inputs per dollar of output			Value of labour inputs per dollar of output			Value of capital inputs per dollar of output			Value of material inputs per dollar of output		
		1961	1966	1971	1961	1966	1971	1961	1966	1971	1961	1966	1971
1	Agriculture	2.5867553	3.0308769	2.7710506	.2198585	.1763192	.2094958	1.2636131	1.6926945	1.3588739	1.1032837	1.1618632	1.2026809
2	Forestry	1.2925280	1.1643642	1.2346219	.4562652	.4406601	.4827625	.2221382	.1787966	.1394382	.6141246	.5449075	.6124212
3	Slaughtering & meat processing	1.6542613	1.6684675	2.0499572	.2009845	.1809364	.2525439	.0509755	.0671378	.0845609	1.4023013	1.4203933	1.7128464
4	Poultry processing	0.3579655	0.4115874	0.4680251	.0362267	.0429995	.0636524	.0135964	.0162137	.0167469	.3081424	.3523742	.3876258
5	Dairy factories	0.9985184	0.9042039	0.8423686	.1449923	.1298707	.1220140	.0684292	.0618009	.0606302	.7850969	.7125323	.6597244
6	Fish products industry	0.2152063	0.2353136	0.2400104	.0410934	.0478911	.0501184	.0222609	.0135570	.0276347	.1518520	.1738655	.1622573
7	Fruit & veg. processing	0.3300612	0.3208637	0.3167403	.0580812	.0588489	.0601615	.0412857	.0369008	.0318577	.2306943	.2251140	.2247211
8	Feed manufacturing	0.2632131	0.2857623	0.5573308	.0284568	.0263415	.2870509	.0219351	.0282065	.0301297	.2128212	.2312143	.2401502
9	Flour & Breakfast Cereal	0.2219987	0.6662902	0.5776241	.0854779	.0747455	.0794448	.0728566	.0565619	.0263790	.0636642	.5349828	.4718003
10	Biscuit manufacturing	0.2452698	0.2077343	0.2389224	.0694636	.0607417	.0713225	.0283064	.0286539	.0293304	.1474998	.1183387	.1382695
11	Bakeries	1.2485034	1.1017828	1.0806782	.3731133	.3506590	.3779048	.1705941	.1054548	.0807400	.7047960	.6456690	.6120334
12	Confectionery manufacturing	0.8086377	0.8551191	0.9226364	.21199105	.2170418	.2401641	.0898727	.1238958	.1255176	.5067740	.5141815	.5569547
13	Sugar refineries	0.5202273	0.4679908	0.5033009	.1080865	.1027448	.1211075	.1800173	.1622987	.1474243	.2321235	.2029473	.2347691
14	Vegetable oil mills	0.1525992	0.2004600	0.2059915	.0068125	.0071877	.0091486	.0081263	.0102844	.0170419	.1376604	.1829879	.1798010
15	Miscellaneous food industry	0.4489358	0.5419596	0.6213279	.0722822	.0886701	.1118833	.0610729	.0849853	.1175892	.3155807	.3683042	.3918554
16	Soft drinks manufacturing	0.1915293	0.2402191	0.3236251	.0569509	.0700776	.0970862	.0430907	.0390722	.0400515	.0914877	.1310693	.1864874
17	Distillers	0.1545579	0.2076621	0.2580970	.0227867	.0282862	.0356695	.0680768	.0885407	.1046272	.0636944	.0908352	.1178003
18	Breweries	0.2888537	0.2996504	0.3571721	.0618682	.0656138	.0818167	.0979938	.0944517	.1127427	.1289917	.1395849	.1626127
19	Wineries	0.0427984	0.513391	0.995431	.0080983	.0097117	.0146348	.0116164	.0132630	.0240431	.0230837	.0283644	.0608652
20	Leaf tobacco processing	0.2483232	0.2430781	0.2615496	.0132004	.0111399	.0143646	.0287929	.0182281	.0083474	.2063299	.2134510	.2388376
21	Tobacco prod. manufacturing	0.8440646	0.6994608	0.7322303	.1484648	.1232897	.1287192	.1527311	.1189719	.1743258	.5428687	.4571992	.4291853
22	Fishing, hunting & trapping	0.6238352	0.6979891	0.6189936	.1340871	.1552735	.1464348	.2977891	.3178458	.2775799	.1919590	.2248698	.1949789
23	Mines, quarries & oil wells	4.2027721	2.3085094	5.4609352	1.0447828	.5361596	1.3222195	1.8659051	.9774522	2.0415814	1.2920842	11.9179444	2.0971343
24	Manufacturing excluding food	38.2168036	19.4802129	34.7402661	10.2391051	4.9656955	9.1256804	5.1207690	2.596573	4.0691793	22.8569295	.2343074	21.5454064
25	Communications	1.8969283	1.0062873	2.2285122	0.8898217	.4558166	1.0212240	.5402417	.3161633	.7231805	.4668649	.9762242	.4841077
26	Transport & storage	5.4441349	2.8263357	5.7978709	2.2228779	1.0969848	2.1430291	1.3711444	.7531267	1.4912921	1.8501126	.3267301	2.1635497
27	Elect. power, gas & others	2.3003683	1.9600474	2.4159593	.5000935	.4352435	.5478750	1.4389801	1.1980438	1.3857880	.3612947	2.2671026	.4822963
28	Wholesale trade	5.8428517	7.2452756	5.0433764	2.5889641	3.1270186	.4307718	1.3858855	1.8511544	2.0191226	1.8680021	4.1765678	2.5934820
29	Retail trade	12.0533367	12.4091519	13.5093380	4.8160415	5.1238828	6.3924199	3.3093245	3.1087013	3.1841086	3.9279707	5.0170648	3.9328095
30	Finance ins., real estate	21.5214432	22.2672613	27.4450171	3.2537880	3.7531251	4.7746811	13.5115724	13.4970714	16.3007544	4.7560828	7.2135801	6.3695816
31	Comm. Bus. & Pers. service	21.4606279	22.3112357	30.6214896	6.3870441	7.1915435	10.1092694	7.5470544	7.9061121	10.6448076	7.5265294	5.2285377	9.8674126
32	Transport margins	5.0316243	5.2285377	7.7495491	0	0	0	0	0	0	5.0316243	19.4032541	7.7495491
33	Construction	29.2605047	36.4781303	50.5455154	8.9853412	11.6333959	16.7508375	3.1283606	5.4414803	7.7529770	17.1468029	13.9987169	26.0417009
34	Operation,office lab.& food	10.9799550	15.1068538	24.4564077	0	0	0	.6101935	1.1081369	2.0101953	10.3697615	6.0142984	22.4462124
35	Travel & adv. promotion	5.7474736	6.5195127	6.7422938	0	0	0	.3468344	.5052143	.5591386	5.4006392		6.1831552
	Average industry	4.6845378	4.9241826	6.6296663	.8891617	.8936456	1.2086494	.8647812	.8830040	1.1002318	1.6175474	1.9819440	2.3496582

The ten lowest total cost agriculture related industries and their rankings over the study period are given in Table C2.

Table C2. The Ten Lowest Total Cost Agricultural Industries

Rank \ Year & Range	1961 ($0.04-0.29)	1966 ($0.20-0.41)	1971 ($0.20-0.50)
1.	Wineries	Vegetable oil mills	Vegetable oil mills
2.	Vegetable oil mills	Distillers	Biscuit manufacturing
3.	Distillers	Biscuit manufacturing	Fish products
4.	Soft drinks manufacturing	Fish products	Distillers
5.	Fish products	Soft drinks manufacturing	Leaf tobacco processing
6.	Flour and breakfast cereal	Leaf tobacco processing	Fruit and vegetable processing
7.	Biscuit manufacturing	Feed manufacturing	Soft drinks manufacturing
8.	Leaf tobacco processing	Breweries	Breweries
9.	Feed manufacturing	Fruit and vegetable processing	Poultry processing
10.	Breweries	Poultry processing	Sugar refineries

Most of the costs here were attributed to materials, and an increasing trend in total costs, as well as a considerable change in the ranks, were noticeable among these industries over the study period. The feed manufacturers and wineries industries experienced particularly high total cost changes of 96 and 94 percent respectively in 1971. It may be implied that long term investment costs in most agricultural

related industries are not as great as in non-agricultural industries and that their returns are much more short term. However, the fact that there was an increasing trend in costs among low total cost industries may suggest that this situation was certainly and rapidly changing as more research and technological development went into agricultural manufacturing.

Six industries outside the agricultural economy exhibited very high costs of production per dollar of output and changes in these costs were particularly high with a generally increasing trend over the entire study period. These industries, in descending order were construction, manufacturing excluding food, community business and personal service, finance insurance and real estate, operation office laboratory and food and retail trade. Total costs here range from $10.98 for operation office laboratory and food in 1961 to $50.54 for construction in 1971. Material and labour costs were the most outstanding except for the finance insurance and real estate industry where capital was dominating. The high costs exhibited by the non-agricultural industries listed above may be highly attributed to the long term investments undertaken by these industries in research and development, machinery and equipment, human capital and materials. The returns from such investments are long term rather than immediate.

The rankings of individual factor costs per dollar of output in agriculture and related industries are given in Table D.

Table D. Ten Rankings of Labour, Capital and Material Costs per Dollar of Industry Output

Year & Range	Labour	
Rank 1961 ($0.45-0.08)	1966 ($0.44-0.09)	1971 ($0.48-0.12)
1. Forestry	1. Forestry	1. Forestry
2. Bakeries	2. Bakeries	2. Bakeries
3. Agriculture	3. Confectionery manufacturing	3. Feed manufacturing
4. Confectionery manufacturing	4. Slaughtering and meat processing	4. Slaughtering and meat processing
5. Slaughtering and meat processing	5. Agriculture	5. Confectionery manufacturing
6. Tobacco products manufacturing	6. Fishing, hunting and trapping	6. Agriculture
7. Dairy factories	7. Dairy factories	7. Fishing, hunting and trapping
8. Fishing, hunting and trapping	8. Tobacco products manufacturing	8. Tobacco products manufacturing
9. Sugar refineries	9. Sugar refineries	9. Dairy factories
10. Flour and breakfast cereal	10. Miscellaneous food	10. Sugar refineries

Continued.....

Table D (continued)

Rank \ Year & Range	1961 ($1.26-0.07)	1966 ($1.69-0.08)	1971 ($1.36-0.08)
		Capital	
1.	Agriculture	Agriculture	Agriculture
2.	Fishing, hunting and trapping	Fishing, hunting and trapping	Fishing, hunting and trapping
3.	Forestry	Forestry	Tobacco products manufacturing
4.	Sugar refineries	Sugar refineries	Sugar refineries
5.	Bakeries	Confectionery manufacturing	Forestry
6.	Tobacco products manufacturing	Tobacco products manufacturing	Confectionery manufacturing
7.	Breweries	Bakeries	Miscellaneous food
8.	Confectionery manufacturing	Breweries	Breweries
9.	Flour and breakfast cereal	Distillers	Distillers
10.	Dairy factories	Miscellaneous food	Slaughtering and meat processing
		Materials	
	1961 ($1.40-0.23)	1966 ($1.42-0.35)	1971 ($1.71-0.39)
1.	Slaughtering and meat processing	Slaughtering and meat processing	Slaughtering and meat processing
2.	Agriculture	Agriculture	Agriculture
3.	Dairy factories	Dairy factories	Dairy factories
4.	Bakeries	Bakeries	Forestry
5.	Forestry	Forestry	Bakeries
6.	Tobacco products manufacturing	Flour and breakfast cereal	Confectionery manufacturing
7.	Confectionery manufacturing	Confectionery manufacturing	Flour and breakfast cereal

Continued.....

Table D (continued)

1961 ($1.40-0.23)	1966 ($1.42-0.35)	1971 ($1.71-0.39)
8. Miscellaneous food	8. Tobacco products manufacturing	8. Tobacco products manufacturing
9. Poultry processing	9. Miscellaneous food	9. Miscellaneous food
10. Sugar refineries	10. Poultry processing	10. Poultry processing

Major changes here are noted in labour costs for the agriculture and the feed manufacturing industries, and in material costs for the flour and breakfast cereal and the soft drinks manufacturing industries.

The results of Table 2b indicate that on average the percent of labour input costs to all industries slightly exceeded those of capital but were about half those of material inputs in all three time periods. Percentage changes of average labour input costs were rather slight over the study period from 26.37 percent in 1961 to 24.66 percent in 1966 and increasing slightly to 25.94 percent in 1971, with a net effect of only 0.43 percent decrease from 1961 to 1971. Average percentages of capital input costs were slightly below those of labour and these toochanged very slightly from 25.65 percent in 1961 to 24.36 percent in 1966 and to 23.62 in 1971. Here however there was a definite declining trend. Thirdly, material input costs to an industry on average were 47.98 percent in 1961, 50.98 percent in 1966 and 50.44 percent in 1971.

We now turn to discussing results of individual inputs, starting with labour, then capital and lastly materials. For labour there are a few agricultural related industries which exceeded average Canadian economy labour cost shares over the study periods and these are ranked

Table 2b. Proportions of labour, capital and material inputs per dollar of industry output

Industry	Percentage of labour			Percentage of capital			Percentage of materials		
	1961	1966	1971	1961	1966	1971	1961	1966	1971
1 Agriculture	8.50	5.82	7.56	48.85	55.85	49.04	42.65	38.33	43.40
2 Forestry	35.30	37.84	39.10	17.19	15.35	11.29	47.51	46.80	49.60
3 Slaughtering & meat processing	12.15	10.84	12.32	3.08	4.02	4.12	84.77	85.13	83.55
4 Poultry processing	10.12	10.45	13.60	3.80	3.94	3.58	86.08	85.61	82.82
5 Dairy factories	14.52	13.01	14.48	6.85	6.19	7.16	78.63	71.36	78.32
6 Fish products industry	19.09	20.35	20.88	10.34	5.76	11.51	70.56	73.89	67.60
7 Fruit & veg. processing	17.60	18.34	18.99	12.51	11.50	10.06	69.89	70.16	70.95
8 Feed manufacturing	10.81	9.22	51.50	8.33	9.87	5.41	80.85	80.91	43.09
9 Flour & breakfast cereal	38.50	11.22	13.75	32.82	8.49	4.57	28.68	80.29	81.68
10 Biscuit manufacturing	28.32	29.24	29.85	11.54	13.79	12.28	60.14	56.97	57.87
11 Bakeries	29.88	31.83	34.97	13.66	9.57	8.40	56.45	58.60	56.63
12 Confectionery manufacturing	26.21	25.38	26.03	11.11	14.49	13.60	62.67	60.13	60.36
13 Sugar refineries	20.78	21.95	24.06	34.60	34.68	29.29	44.62	43.36	46.64
14 Vegetable oil mills	4.46	3.58	4.44	5.32	5.13	8.27	90.21	91.28	87.28
15 Miscellaneous food industry	16.10	16.36	18.01	13.60	15.68	18.92	70.29	67.96	63.07
16 Soft drinks manufacturing	29.73	29.17	30.00	22.50	16.26	12.37	47.77	54.56	57.62
17 Distillers	14.74	13.62	13.82	44.05	42.64	40.54	41.21	43.74	45.64
18 Breweries	21.42	21.90	22.91	33.92	31.52	31.56	44.66	46.58	45.53
19 Wineries	18.92	18.92	14.70	27.14	25.83	24.15	53.93	55.25	61.14
20 Leaf tobacco processing	5.31	4.58	5.49	11.59	7.50	3.19	83.09	87.81	91.32
21 Tobacco prod. manufacturing	17.59	17.63	17.58	18.09	17.01	23.81	64.32	65.36	58.61
22 Fishing, hunting, trapping	21.49	22.20	23.66	47.73	45.44	44.84	30.77	32.15	31.50
23 Mines, quarries & oil wells	24.86	23.22	24.21	44.40	42.34	37.38	30.74	34.43	38.40
24 Manufacturing excluding food	26.79	25.49	26.27	13.40	13.33	11.71	59.81	61.18	62.02
25 Communications	46.91	45.30	45.82	28.48	31.42	32.45	24.61	23.28	21.72
26 Transport & storage	40.83	38.81	36.96	25.18	26.65	25.72	33.98	34.54	37.32
27 Elect. power, gas & others	21.74	22.20	22.68	62.55	61.12	57.36	15.70	16.67	19.96
28 Wholesale trade	44.31	43.16	8.54	23.72	25.55	40.03	31.97	31.29	51.42
29 Retail trade	39.96	41.29	47.32	27.45	25.05	23.57	32.59	33.66	29.11
30 Finance ins., real estate	15.12	16.85	17.40	62.78	60.61	59.39	22.10	22.53	23.21
31 Comm. Bus. & Pers. service	29.76	32.23	33.01	35.17	35.43	34.76	35.07	32.33	32.22
32 Transport margins	0	0	0	0	0	0	100.00	100.00	100.00
33 Construction	30.71	31.89	33.14	10.69	14.92	15.34	58.60	53.19	51.52
34 Operation, office, lab & food	0	0	0	5.56	7.34	8.22	94.44	92.66	91.78
35 Travel, adv. promotion	0	0	0	6.03	7.75	8.29	93.97	92.25	91.71
All industries average	26.37	24.66	25.94	25.65	24.36	23.62	47.98	50.98	50.44

in Table E1 below.

Table E1. Rankings of Agriculture Related Industries with Above Average Labour Cost Shares

Rank \ Year & Range	1961 (38.50-26.21%)	1966 (37.84-25.38%)	1971 (51.50-26.03%)
1.	Flour and breakfast cereal	Forestry	Feed manufacturing
2.	Forestry	Bakeries	Forestry
3.	Bakeries	Biscuit manufacturing	Bakeries
4.	Soft drinks manufacturing	Soft drinks manufacturing	Soft drinks manufacturing
5.	Biscuit manufacturing	Confectionery manufacturing	Biscuit manufacturing
6.	Confectionery manufacturing		Confectionery manufacturing

The agriculture and related industries whose labour cost shares were far below the national industry average are given in Table E2.

Table E2. Rankings of Agriculture and Related Industries with Below Average Labour Cost Shares

Rank \ Year & Range	1961 (4.46-12.15%)	1966 (3.58-10.84%)	1971 (4.44-13.75%)
1.	Vegetable oil mills	Vegetable oil mills	Vegetable oil mills
2.	Leaf tobacco processing	Leaf tobacco processing	Leaf tobacco processing
3.	Agriculture	Agriculture	Agriculture
4.	Poultry processing	Feed manufacturing	Slaughtering and meat processing
5.	Feed manufacturing	Poultry processing	Poultry processing
6.	Slaughtering and meat processing	Slaughtering and meat processing	Flour and breakfast cereal

Of particular interest are the actual changes in the percentage shares of labour in relation to its costs per dollar of each industry's production over the study period. The feed manufacturing industry experienced considerable changes in both labour cost shares and actual labour cost per dollar of output between 1966 and 1971. For the flour and breakfast cereal industry the considerable percentage labour cost share change between 1961 and 1966 is not matched by the changes in the actual cost per dollar of output over the same period. The percentage changes in these two industries were too dramatic and may suggest a high possibility of data errors. A relatively continuous increase in the share of labour costs was noted for the forestry, bakeries, sugar refineries, miscellaneous food and fishing, hunting and trapping industries.

Tables F1 and F2 give the rankings of agriculture and related industries whose capital cost shares were far above and far below the economy averages respectively.

Table F1. Rankings of Agriculture and Related Industries with Capital Cost Shares Above Average

Rank \ Year & Range	1961(48.85-32.82%)	1966 (55.85-31.52%)	1971 (49.04-29.29%)
1.	Agriculture	Agriculture	Agriculture
2.	Fishing, hunting and trapping	Fishing, hunting and trapping	Fishing, hunting and trapping
3.	Distillers	Distillers	Distillers
4.	Sugar refineries	Sugar refineries	Breweries
5.	Breweries	Breweries	Sugar refineries
6.	Flour and breakfast cereal		

Table F2. Rankings of Agriculture and Related Industries with Capital Cost Shares Below Average

Rank \ Year & Range	1961 (3.08-10.34%)	1966 (3.94-7.50%)	1971 (3.19-7.16%)
1.	Slaughtering and meat processing	Poultry processing	Leaf tobacco processing
2.	Poultry processing	Slaughtering and meat processing	Poultry processing
3.	Vegetable oil mills	Vegetable oil mills	Slaughtering and meat processing
4.	Dairy factories	Fish products industry	Flour and breakfast cereal
5.	Feed manufacturing	Dairy factories	Feed manufacturing
6.	Fish products industry	Leaf tobacco processing	Dairy factories

Among all agricultural related industries, while miscellaneous food experienced considerable capital cost share increases, a steady decline was noted for forestry, fruit and vegetable processing, flour and breakfast cereal bakeries, soft drinks manufacturing, distillers, wineries, leaf tobacco processing, and fishing, hunting and trapping.

As already noted, materials accounted for the highest percentage shares in total input cost for the majority of industries. Particularly high percentage shares of material costs were noted among several agricultural related industries. The rankings of these industries are given in Table G.

Table G. Ten Rankings of Agricultural Related Industries with High Material Cost Shares

Rank \ Year & Range	1961 (90.21-64.32%)	1966 (91.28-67.96%)	1971 (91.32-61.14%)
1.	Vegetable oil mills	Vegetable oil mills	Leaf tobacco processing
2.	Poultry processing	Leaf tobacco processing	Vegetable oil mills
3.	Slaughtering and meat processing	Poultry processing	Slaughtering and meat processing
4.	Leaf tobacco processing	Slaughtering and meat processing	Poultry processing
5.	Feed manufacturing	Feed manufacturing	Flour and breakfast cereal
6.	Dairy factories	Flour and breakfast cereal	Dairy factories
7.	Fish products industry	Fish products industry	Fruit and vegetable processing
8.	Miscellaneous food industry	Dairy factories	Fish products industry
9.	Fruit and vegetable processing	Fruit and vegetable processing	Miscellaneous food industry
10.	Tobacco products manufacturing	Miscellaneous food industry	Wineries

Among these high material cost share industries, while flour and breakfast cereal, leaf tobacco processing and wineries experienced increasing shares, poultry processing experienced a declining share over the study period.

Looking at input combinations for each industry it was found that no agricultural related industries had a combination of high labour and capital cost shares. Instead high capital and material cost shares were noted for agriculture, sugar refineries and distillery industries.

For the distillery industry, while the material cost shares were increasing, capital cost shares were decreasing. High labour and material cost shares were experienced by forestry and bakeries among agricultural related industries. Overall, the community business and personal service industry was the only one in the entire economy which experienced almost identical cost shares for labour, capital and materials over the entire study period.

The above described results are more vividly shown on the bar graphs constructed from the statistics in Table 2b and presented in Figures 1 through 4. Indeed each industry displayed a particular pattern of input combinations either for each time period or for the entire period under study. In general industries maintained their patterns for combined inputs or individual inputs over the study period and there were only a few with major changes in their patterns.

Looking at labour input cost shares for the entire economy (Figure 1), we observe that its only industries 8, 9 and 28 which had major changes in the labour cost share patterns at least over one sub-period. A relatively continuous increasing trend was noticeable in the patterns for industries 2, 11, 13, 15, 22, 27, 29, 30, 31 and 33. A declining trend was notable for only industry 26.

Major changes among capital share patterns (Figure 2) were noted for industries 1, 9 and 28. Increasing patterns were most notable for industries 15, 25, 28, 33, 34 and 35. Steadily declining patterns were noted for industries 2, 7, 9, 11, 16, 17, 19, 20, 22, 27, 29 and 30.

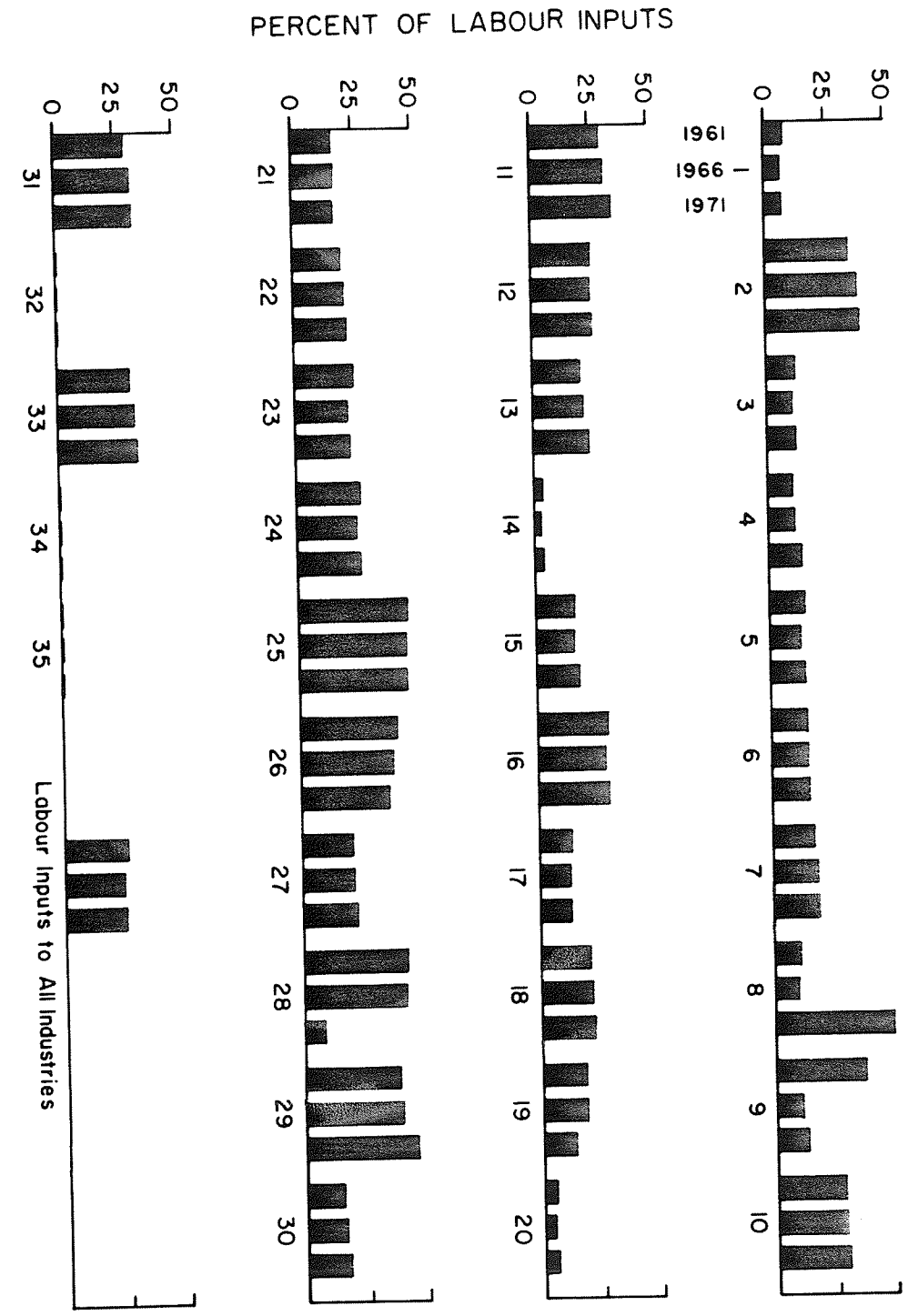

Fig. 1. Industry Labour Inputs as a Percent of Total Industry Inputs for 1961, 1966 and 1971.

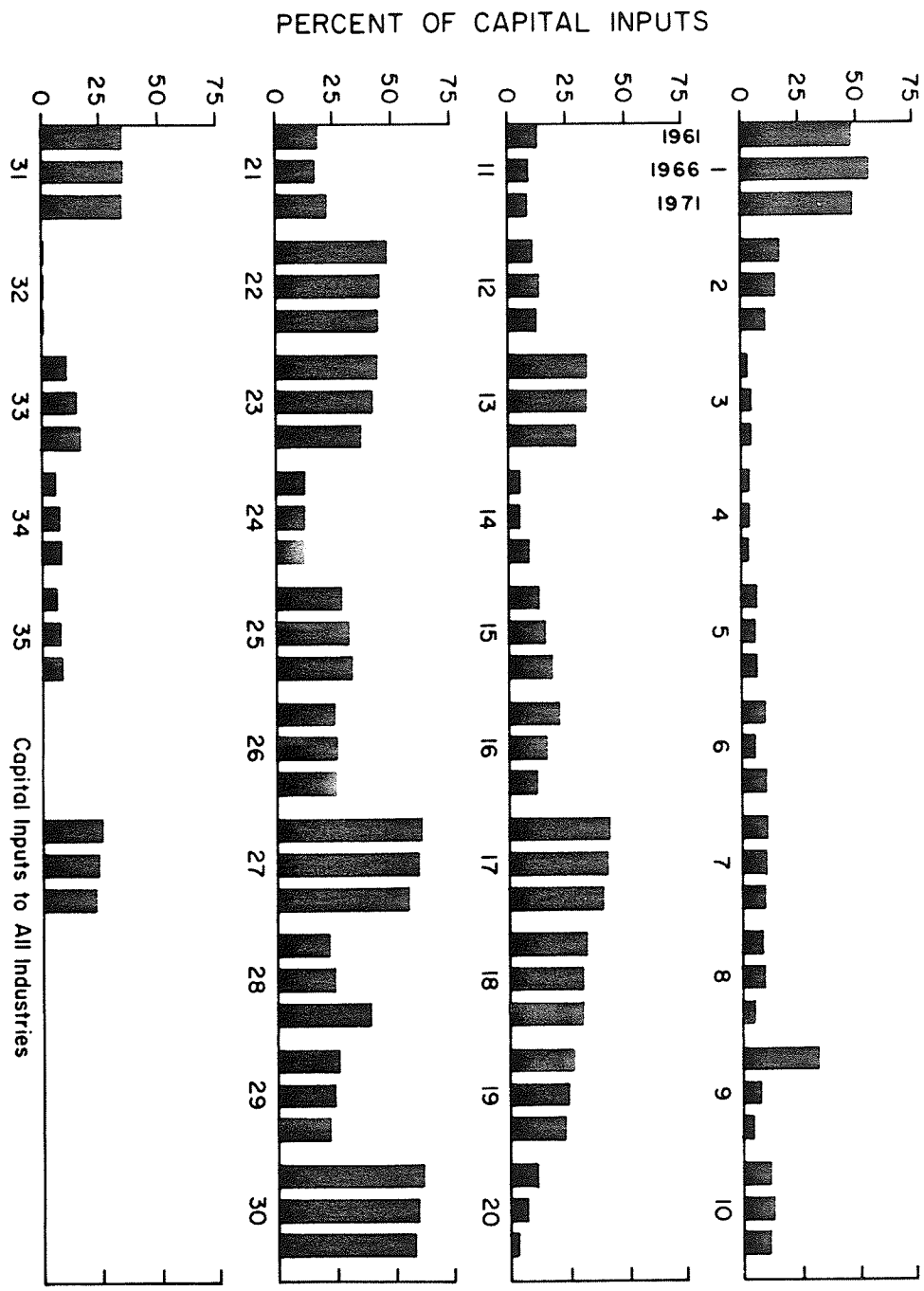

Fig. 2. Industry Capital Inputs as a Percent of Total Industry Inputs for 1961, 1966 and 1971.

For materials (Figure 3), industries 8, 9 and 28 displayed the most notable changes in their material share patterns. A steadily increasing trend was noted for industries 16, 17, 19, 20, 23, 24, 26, 27, 28 and 30. A steadily decreasing trend was noted for industries 4, 15, 25, 31, 33, 34 and 35.

When all the input shares were combined for each industry (Figure 4) we observed a consistent pattern of input shares for almost each industry over the three time periods, except for industries 8, 9 and 28 which showed major and dramatic changes in individual inputs over the period. It was also observed that there were basically similar patterns of input combinations for several groups of industries over the entire study period. Industries 10, 11, 12, 16, 24 and 33 displayed an almost similar pattern and yet another was displayed by industries 3, 4, 5, 6 and 7. Industries 13, 18 and 19 also displayed a close pattern and so did industries 1 and 22. The last groups considered to have similarly structural patterns of input combinations were that of industries 26 and 29 and that of industries 34 and 35. The rest of the other industries may be considered to have had unique pattern structures, particularly industry 31 which was the only one with almost equal shares of inputs over the entire study period.

From the results of Measure II we can draw some conclusions about structural change as measured by changes in total, individual input costs per dollar of industry output and percentage shares of individual input costs per dollar of industrial output. As to total input costs per dollar of industry output, the model indicated that

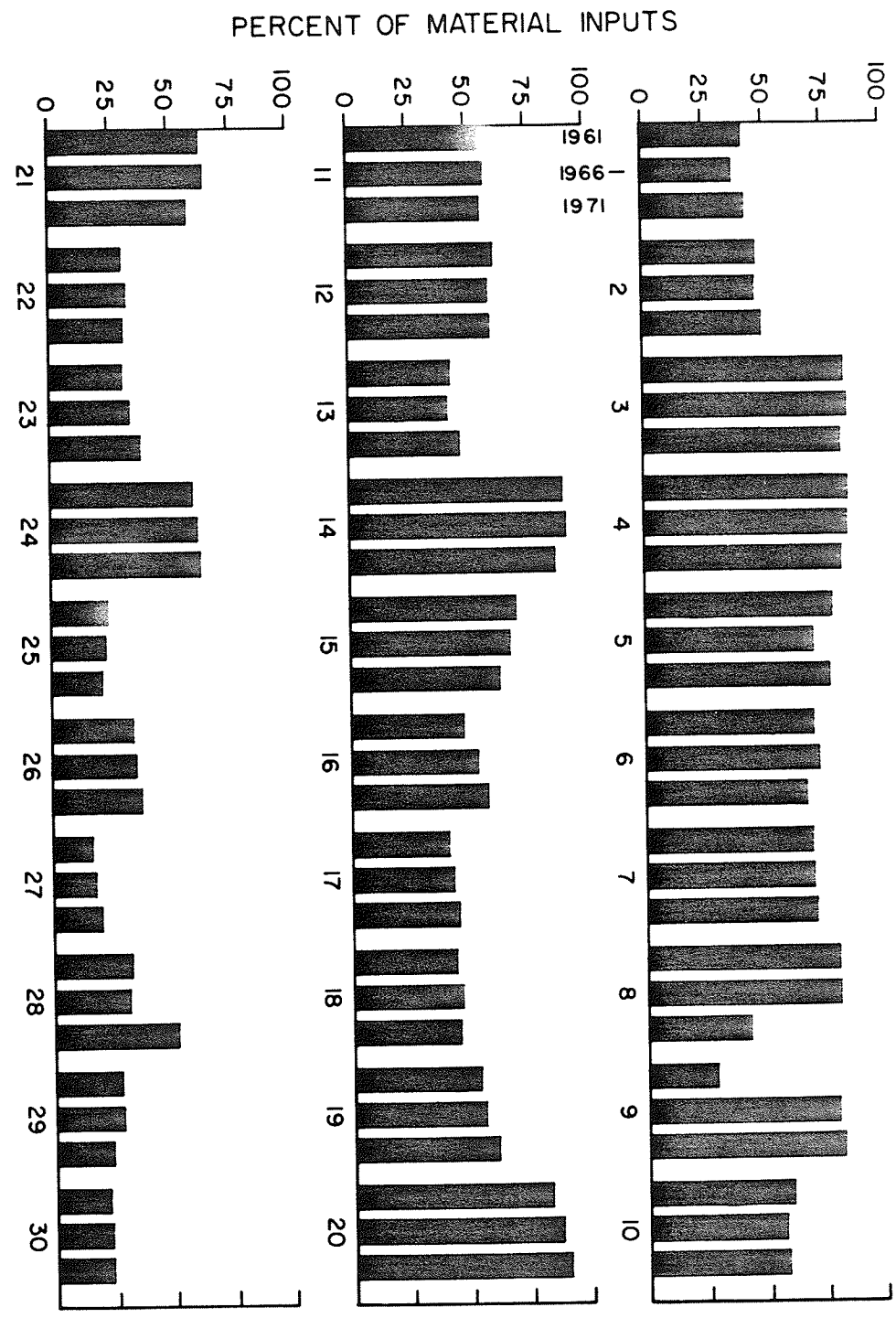

Fig. 3. Industry Material Inputs as a Percent of Total Industry Inputs for 1961, 1966 and 1971.

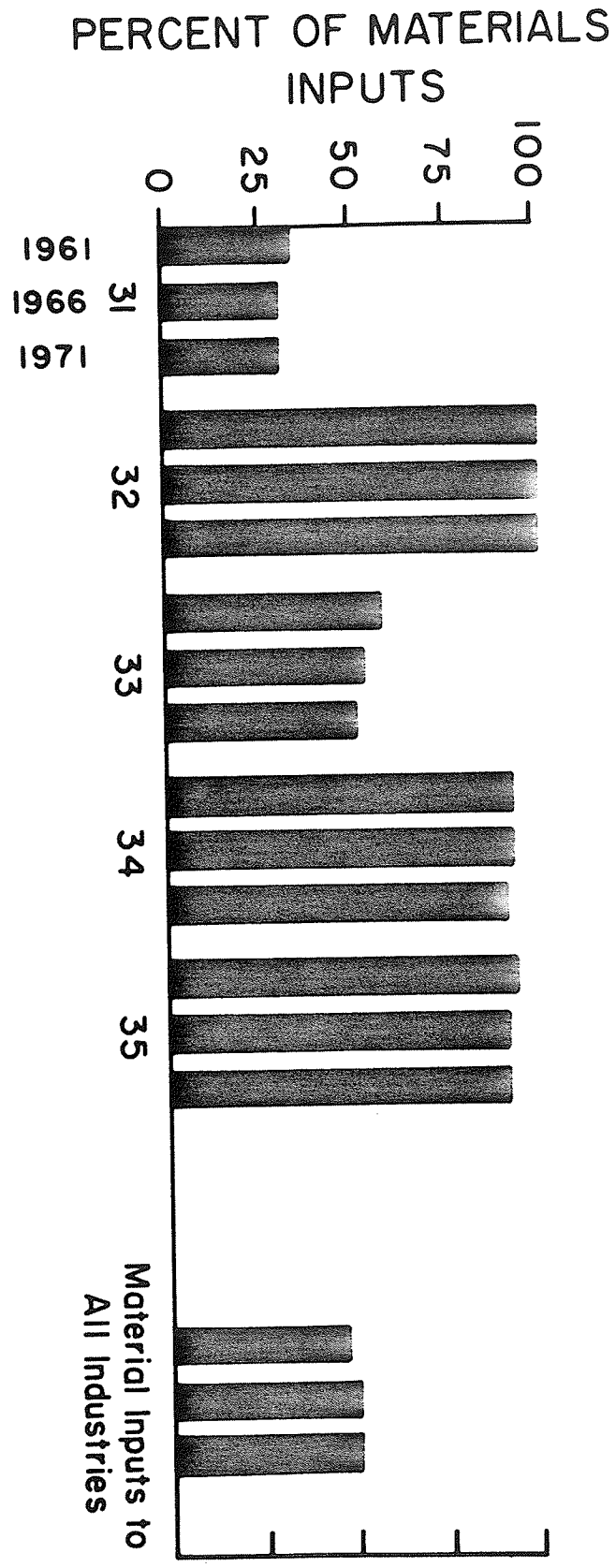

Fig. 3. Industry Material Inputs as a Percent of Total Industry Inputs for 1961, 1966 and 1971.

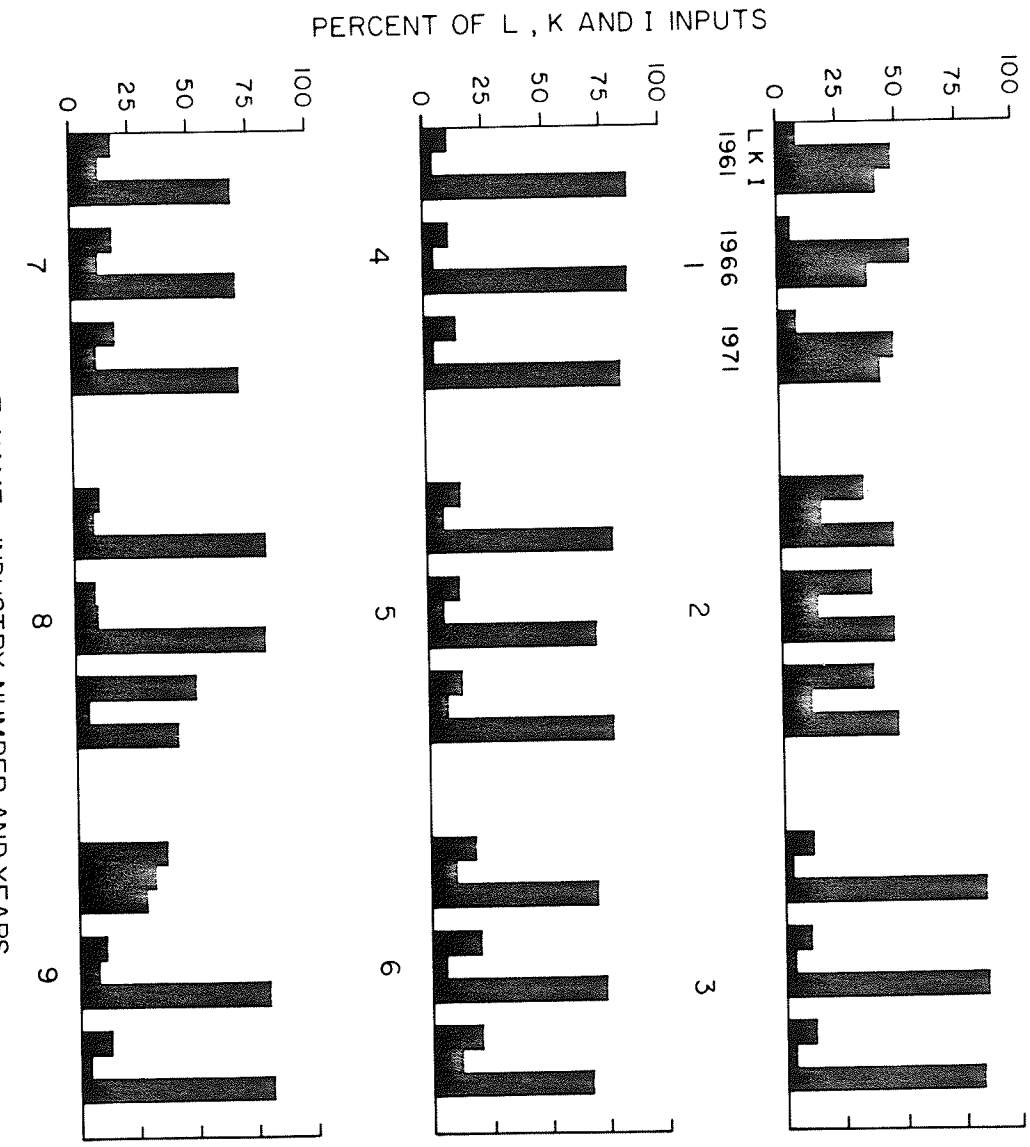

Fig. 4. Industry Labour (L), Capital (K) and Material (I) Inputs as Percentages of Total Industry Inputs for 1961, 1966 and 1971.

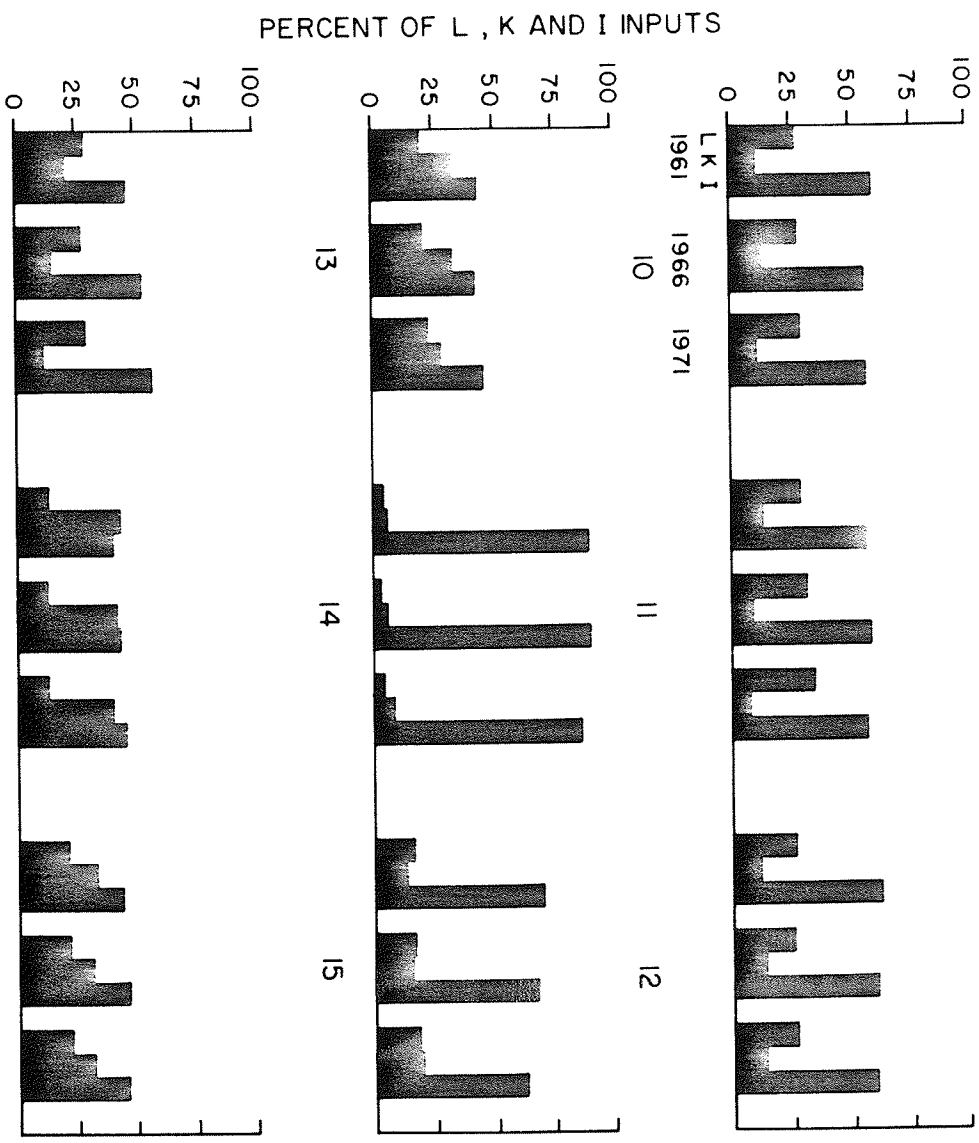

Fig. 4. Industry Labour (L), Capital (K) and Material (I) Inputs as Percentages of Total Industry Inputs for 1961, 1966 and 1971.

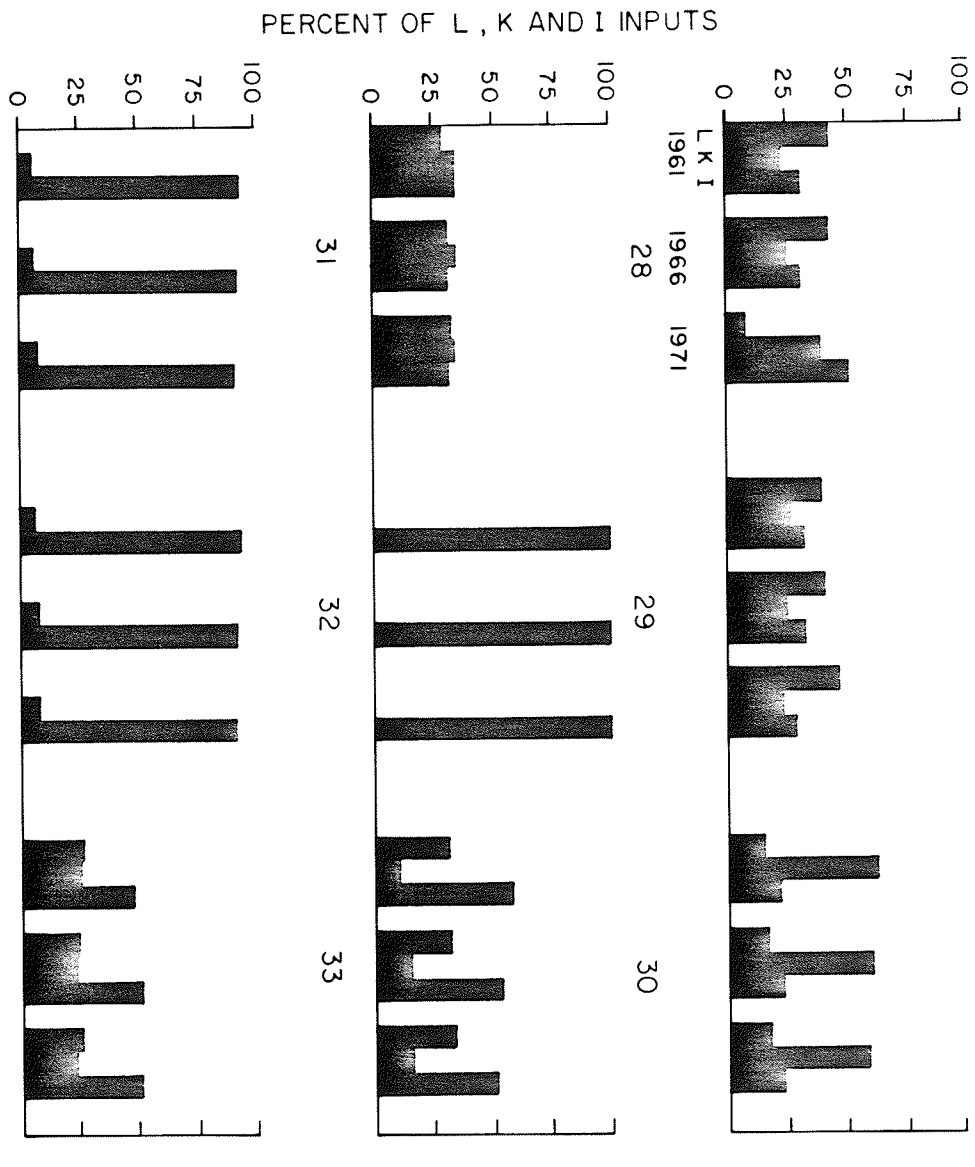

Fig. 4. Industry Labour (L), Capital (K) and Material (I) Inputs as Percentages of Total Industry Inputs for 1961, 1966 and 1971.

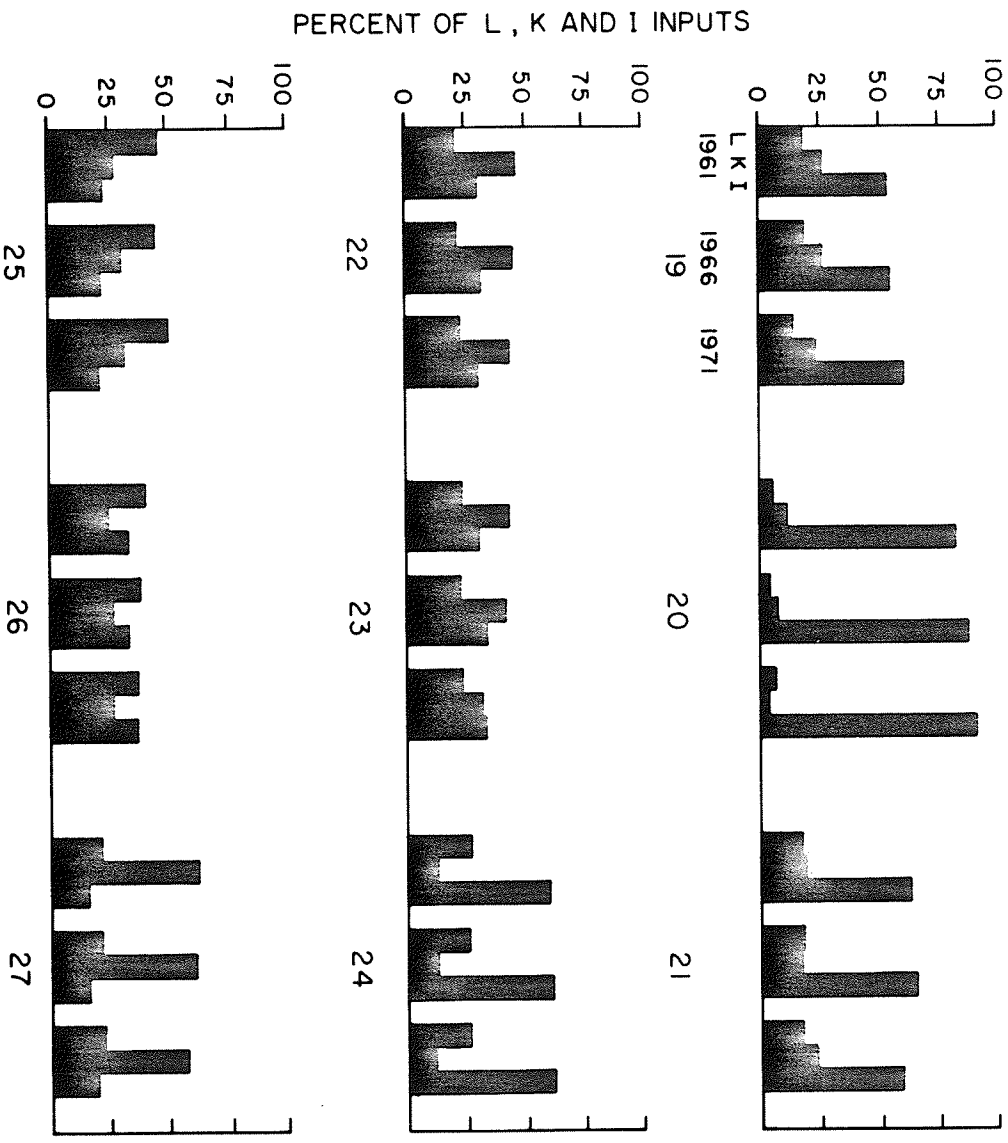

Fig. 4. Industry Labour (L), Capital (K) and Material (I) Inputs as Percentages of Total Industry Inputs for 1961, 1966 and 1971.

there were no major changes among agriculture and related industries. However the model indicated major changes in labour costs for the feed manufacturing industry and in material costs for the flour and breakfast cereals and the soft drinks manufacturing industries. As to changes in individual input percentage shares, the feed manufacturing industry experienced a dramatically rising labour cost share and a dramatically falling material cost share between 1966 and 1971. The flour and breakfast cereals industry also experienced major and dramatic changes in all its input cost shares in the first sub-period of the study. Thus among agricultural related industries structural changes may be implied for the feed manufacturing and flour and breakfast cereal industries. This phenomena is well illustrated in the change of percentage input patterns for industries 8 and 9 in Figure 4. Outside agricultural related industries, industry 28 is the only other industry with possible structural change over the study period. On average industries in the Canadian economy were material intensive and most of them were becoming increasingly so over the study period.

3. Measure III

Measure III is based on changes in impact coefficients and changes in final demand multipliers. The results of this measure are given in Tables 3a, 3b and Appendix C. Table 3a presents final demand multipliers for 1961, 1966 and 1971, derived from the tables in Appendix C, and percentage changes in them over the two sub-periods. The multipliers have been ranked according to their magnitudes and

equal values are given the same rank. The ranks go up to 109 , for 1961, 115 for 1966 and 110 for 1971. Tables 3c, 3d and 3e in Appendix C present the impact coefficients for 1961, 1966 and 1971 respectively. Table 3b is derived from Appendix C and presents commodities with high impact coefficients of 1.1100 and above.

The results in Table 3a show that a variety of agricultural products had very high final demand multipliers of 2.5100 and above, especially in 1961 and in 1971. The study further noted that these were mostly meat products (1961) and dairy products (1971). Table H1 presents these high multiplier commodities in their respective years, ranked according to their magnitudes.

Table H1. Rankings of Agricultural Commodities With Very High Final Demand Multipliers of 2.5000 and Above

Rank \ Year & Range	1961 (2.5755-2.5061)	1966 (2.7020-2.5002)	1971 (2.7237-2.5270)
1.	Poultry canned	Poultry canned	Meat cured
2.	Horse meat fresh, chilled and frozen	Tobacco processed unmanufactured	Meat prepared cooked not canned
3.	Sausage casings natural and synthetic	Poultry fresh, frozen chilled	Animal oils, fats and lard
4.	Animal materials for drugs and perfume		Feeds of animal origin not elsewhere specified
5.	Meat prepared canned not cooked		Animal materials for drugs and perfume
6.	Meat cured		Poultry canned
7.	Animal oils, fats and lard		Primary tankage

Continued.....

Table H1 (continued)

Rank	Year & Range 1961 (2.5755-2.5061)	1966 (2.7020-2.5002)	1971 (2.7237-2.5270)
8.	Feeds of animal origin not elsewhere specified		8. Tobacco processed unmanufactured
			9. Cheese cheddar and processed
			10. Milk whole fluid processed
			11. Milk evaporated
			12. Fresh cream
			13. Other dairy products
			14. Butter
			15. Beef, veal, mutton, pork fresh and frozen
			16. Ice cream

The general trend among high final demand multipliers was an increasing one over the study period, particularly between 1966 and 1971. The highest steady increase among high multiplier commodities was noted for poultry fresh frozen and chilled, which in 1966 increased by 11.19 percent above its 1961 level. However there were greater steady increases noted among other agricultural commodities' multipliers. These and their percentage changes are given in Table H2.

Table 3a. Final demand multipliers 1961, 1966 and 1971 and percentage changes in them between 1961 and 1966 and 1966 and 1971*

	Commodity	1961	1966	1971	Ranks 1961	Ranks 1966	Ranks 1971	Percentage change 1961-1966	Percentage change 1966-1971
1	Cattle and calves	1.7418	1.7486	1.7755	86	94	90	+ 0.39	+ 1.54
2	Sheep and lambs	1.7418	1.7486	1.7755	86	94	90	+ 0.39	+ 1.54
3	Hogs	1.7418	1.7486	1.7755	86	94	90	+ 0.39	+ 1.54
4	Poultry	1.7419	1.7487	1.7756	85	93	89	+ 0.39	+ 1.54
5	Poultry, fresh, frozen, chilled	2.2485	*2.5002	*2.5039	24	5	17	+*11.19	+ 0.15
6	Poultry canned	*2.5755	*2.7090	*2.6453	1	2	6	+ 5.18	- 2.35
7	Other live animals	1.7418	1.7486	1.7755	86	94	90	+ 0.39	- 1.54
8	Beef, veal, mutton, pork fresh & frozen	2.3066	2.2590	*2.5331	22	32	14	- 2.06	+*12.13
9	Horse meat fresh, chilled, frozen	*2.5376	2.1373	2.0432	2	34	49	-*15.77	- 4.40
10	Meat cured	*2.5373	*2.4965	*2.7237	4	7	1	- 1.61	+* 9.10
11	Meat prepared, cooked not canned	*2.5374	*2.4965	*2.7235	3	7	2	- 1.61	+* 9.09
12	Meat prepared canned	*2.4601	*2.4309	*2.6092	10	15	8	- 1.19	+ 7.33
13	Animal oils & fats & lard	*2.5253	*2.4863	*2.7179	5	8	3	- 1.54	+* 9.31
14	Margarine, shortening and like products	2.2122	1.9920	2.2228	26	57	32	-* 9.95	-*10.38
15	Sausage casings, natural & synthetic	*2.5376	*2.4968	2.3841	2	6	21	- 1.61	+ 4.51
16	Primary tankage	*2.4638	*2.4780	*2.6453	9	11	6	+ 0.65	+ 6.75
17	Milk, whole, fluid, processed	*2.4159	*2.4292	*2.5854	13	17	11	+ 0.55	+ 6.43
18	Milk, whole, fluid unprocessed	1.7418	1.7486	1.7755	86	94	90	+ 0.39	+ 1.54
19	Fresh cream	2.3969	*2.4327	*2.5853	15	14	10	+ 1.49	+ 6.27
20	Butter	*2.4185	*2.4294	*2.5798	12	16	13	+ 0.45	+ 6.19
21	Cheese, cheddar & processed	*2.4117	*2.4354	*2.5865	14	13	9	+ 0.98	+ 6.20
22	Milk evaporated	*2.4394	*2.4441	*2.5854	11	12	10	+ 0.19	+ 5.78
23	Ice cream	2.3865	*2.4025	*2.5270	17	20	16	+ 0.67	+ 5.18
24	Other dairy products	*2.4074	*2.4278	*2.5808	15	18	12	+ 0.85	+ 6.30
25	Rice unmilled	0	0	0	109	115	110		
26	Wheat unmilled	1.7418	1.7486	1.7756	86	94	89	+ 0.39	+ 1.54
27	Barley, oats, rye, corn, grain nes	1.7442	1.7496	1.7761	82	91	87	+ 0.31	+ 1.51
28	Wheat flour	2.0528	*2.4130	2.3542	39	19	24	+*17.55	- 2.44
29	Fruits, fresh, except tropical	1.7430	1.7502	1.7764	83	89	88	+ 0.41	+ 1.50
30	Vegetables, fresh	1.7419	1.7488	1.7772	85	92	84	+ 0.40	+ 1.62
31	Vegetables, fresh, frozen, dried & preserved	2.0939	2.0994	2.1063	33	41	38	+ 0.26	+ 0.33
32	Vegetables & preparations canned	2.0954	2.0925	2.1022	31	44	43	- 0.14	+ 0.46

Continued .....

Table 3a continued

Commodity	1961	1966	1971	Ranks 1961	Ranks 1966	Ranks 1977	Percentage change 1961-1966	Percentage change 1966-1971
33 Fruits, berries, dried, crystalized	2.0704	2.0845	2.1111	37	46	37	+ 0.68	+ 1.28
34 Fruits and preparations canned	2.0942	2.1035	2.1258	32	40	36	+ 0.44	+ 1.06
35 Eggs in the shell	1.7418	1.7485	1.7770	86	95	85	+ 0.39	+ 1.63
36 Nuts, edible, not shelled	1.8456	1.7538	1.7797	75	88	82	- 4.97	+ 1.48
37 Seeds ex. oil and seed grades	1.7418	1.7486	1.7755	86	94	90	+ 0.39	+ 1.54
38 Oilseeds, nuts and kernels	1.7422	1.7494	1.7758	84	90	88	+ 0.41	+ 1.51
39 Nuts, kernels and seeds prepared	1.9508	1.9860	1.9136	50	58	58	+ 1.80	- 3.64
40 Meal & flour of other cereals & veg.	2.0407	2.3094	2.1055	41	30	41	+*13.17	- 8.83
41 Breakfast cereal products	2.0485	2.3522	2.2870	40	26	30	+*14.82	- 2.77
42 Biscuits	2.0717	2.0836	2.0535	36	47	48	+ 0.57	- 1.44
43 Bread and rolls	2.0337	2.1190	2.0679	43	38	44	+ 4.19	- 2.41
44 Other baking products	2.0376	2.1367	2.0569	42	35	47	+ 4.86	- 3.73
45 Cocoa and chocolate	1.9438	1.9761	1.9003	51	59	60	+ 1.66	- 3.83
46 Chocolate confectionery	1.9429	1.9730	1.8956	52	60	61	+ 1.55	- 3.92
47 Other confectionery	1.9638	1.9133	1.9387	47	76	57	- 2.57	+ 1.33
48 Sugar	1.3633	1.3205	1.3716	107	113	107	- 3.14	+ 3.87
49 Molasses, sugar refinery products	1.4599	1.4793	1.6754	99	109	94	+ 1.33	+*13.26
50 Oilseed meal and cake	1.3804	1.5265	1.9839	105	107	51	+*10.58	+*29.96
51 Maple sugar and syrup	1.8553	1.9041	1.9141	72	78	57	+ 2.63	+ 0.52
52 Prepared cake & similar mixes	1.3438	2.1543	2.0656	107	33	45	+*60.31	- 4.12
53 Beet pulp	1.4092	1.3205	1.3716	102	113	107	- 6.29	+ 3.87
54 Soups, dried & soup mixes & bases	1.9713	2.0416	1.9949	46	52	50	+ 3.57	- 2.29
55 Coffee, roasted, ground, prepared	1.9347	2.0274	1.9551	54	56	55	+ 4.79	- 3.57
56 Tea	1.9569	2.0352	1.9756	49	54	54	+ 4.00	- 2.93
57 Potato chips and similar products	1.9571	2.0350	1.9756	48	55	54	+ 3.98	- 2.92
58 Misc. food nes.	1.9818	2.0775	2.0432	45	48	49	+ 4.83	- 1.65
59 Soft drink concentrates & syrup	1.8499	2.0488	2.1390	74	51	35	+*10.75	+ 4.40
60 Carbonated beverage soft drinks	1.8378	2.0502	2.1496	76	50	34	+*11.56	+ 4.85
61 Soups canned	2.0981	2.0959	2.1054	29	42	42	- 0.10	+ 0.45
62 Pickles, relishes, other sauces	2.0977	2.1037	2.1061	30	39	40	+ 0.29	+ 0.11
63 Vinegar	2.0981	2.0957	2.1062	29	43	39	- 0.11	+ 1.05
64 Other food preparations	2.1208	2.1296	2.1801	26	36	33	+ 0.41	+ 2.37

Continued .....

Table 3a continued

Commodity	1961	1966	1971	Ranks 1961	Ranks 1966	Ranks 1977	Percentage change 1961-1966	Percentage change 1966-1971
65 Fish products	2.0005	2.0670	1.9548	44	49	56	+ 3.32	- 5.43
66 Mustard mayonnaise	2.2258	2.2828	2.3460	25	31	25	+ 2.56	+ 2.77
67 Honey and beeswax	1.7517	1.8637	1.8628	81	81	75	+ 6.39	- 0.05
68 Malt, malt flour & wheat starch	1.9571	2.0358	1.9776	48	53	52	+ 4.02	- 2.86
69 Alcoholic beverages distilled	1.6742	1.7781	1.7846	89	86	80	+ 6.20	+ 0.36
70 Alcohol, natural ethyl	1.6755	1.7768	1.7837	88	87	81	+ 6.04	+ 0.39
71 Brewers & distillers' grains	1.7581	1.8499	1.7913	80	82	79	+ 5.22	- 3.17
72 Ale, beer, stout & porter	1.8209	1.8349	1.7193	77	84	93	+ 0.77	- 6.30
73 Wines	1.7795	1.6894	1.7455	78	97	92	- 5.06	+ 3.32
74 Tobacco processed, unmanufactured	*2.4701	*2.5634	*2.6169	8	3	7	+ 3.78	+ 2.09
75 Cigarettes	2.3568	2.3295	2.3286	20	28	26	- 1.16	- 0.03
76 Tobacco mfg. excluding cigarettes	2.3568	2.3295	2.3229	20	28	27	- 1.16	- 0.28
77 Tobacco raw	1.7418	1.7486	1.7755	86	94	90	+ 0.39	+ 1.54
78 Veg. oils & fats, crude	1.3803	1.5449	1.9839	106	106	51	+*11.92	+*28.42
79 Feed of animal origin nes.	*2.5061	*2.4827	*2.7017	6	10	4	- 0.93	+ 8.82
80 Primary or concentrated feeds	2.0833	2.3795	2.3802	35	23	23	+*14.21	+ 0.03
81 Feeds for commercial livestock	2.0834	2.3804	2.3826	34	22	22	+*14.25	+ 0.09
82 Feeds, grain origin nes.	2.0625	2.3852	2.2912	38	21	29	+*15.65	- 3.94
83 Feeds of veg. origin nes.	1.9358	2.1268	2.3800	54	37	23	+* 9.87	+*11.93
84 Pet feeds	2.1158	2.3685	2.3914	27	24	20	+*11.94	+ 0.97
85 Infant & junior foods canned	2.1151	2.0861	2.0624	28	45	46	- 1.37	- 1.14
86 Hops including lupulin	1.7418	1.7486	1.7755	86	94	90	+ 0.39	+ 1.54
87 Hay forage and straw	1.7604	1.9277	1.9040	79	62	59	+* 9.50	- 1.23
88 Hides and skins, raw nes.	2.3178	2.3673	*2.4673	21	25	18	+ 2.13	+ 4.22
89 Mink skins, ranch & undressed	1.7418	1.7486	1.7755	86	94	90	+ 0.39	+ 1.54
90 Wool in grease	1.7418	1.7486	1.7755	86	94	90	+ 0.39	+ 1.54
91 Services incidental to agr. & forestry	1.7382	1.7480	1.7715	87	96	91	+ 0.56	+ 1.34
92 Forestry products	1.8542	1.8397	1.8404	73	83	77	- 0.78	+ 0.04
93 Fishing & trapping products	1.4394	1.4836	1.4313	100	108	104	+ 3.07	- 3.52
94 Textiles products	1.9055	1.9147	1.8722	67	75	72	+ 0.48	- 2.22
95 Knitted products & clothing	1.9151	1.9224	1.8743	65	71	64	+ 0.38	- 2.50
96 Lumber, sawmill, other wood products	1.9183	1.9254	1.8742	58	66	65	+ 0.37	- 2.66
97 Furniture and fixtures	1.9171	1.9244	1.8727	62	68	71	+ 0.38	- 2.69

Continued .....

Table 3a continued

Commodity	1961	1966	1971	Ranks 1961	Ranks 1966	Ranks 1977	Percentage change 1961-1966	Percentage change 1966-1971
98 Paper and paper products	1.9182	1.9253	1.8743	59	67	64	+ 0.37	- 2.65
99 Printing and publishing	1.9187	1.9257	1.8740	57	65	66	+ 0.36	- 2.68
100 Metallic ores & concentrates	1.5467	1.6062	1.6325	95	99	95	+ 3.85	+ 1.64
101 Mineral fuels	1.5022	1.5806	1.6143	97	103	98	+ 5.22	+ 2.13
102 Non-metallic minerals	1.5172	1.5901	1.6242	96	101	96	+ 4.80	+ 2.14
103 Services incidental to mining	1.5020	1.5805	1.6140	98	104	99	+ 5.23	+ 2.12
104 Primary metal products	1.9189	1.9259	1.8745	56	64	63	+ 0.36	- 2.67
105 Metal fabricated products	1.9179	1.9535	1.8738	60	61	67	+ 1.85	- 4.08
106 Non-metallic minerals products	1.9171	1.9241	1.8732	63	69	69	+ 0.36	- 2.38
107 Petroleum & coal products	1.9129	1.9192	1.8682	68	73	73	+ 0.33	- 2.66
108 Chemicals, chemical products	1.9176	1.9171	1.8718	61	74	72	- 0.03	- 2.36
109 Nitrogen function compounds nes.	1.8943	1.8989	1.8809	71	79	62	+ 0.24	- 0.95
110 Autos, trucks, other trans. equip.	1.9170	1.9244	1.8733	64	68	68	+ 0.38	- 2.66
111 Transportation & storage	1.5824	1.5802	1.6216	93	105	97	- 0.14	+ 2.62
112 Elect. & communications products	1.9031	1.9068	1.8540	70	77	76	+ 0.19	- 2.77
113 Communication services	1.4120	1.3446	1.2614	101	112	109	- 5.01	- 6.19
114 Other utilities	1.2703	1.2531	1.2902	108	114	108	- 1.37	+ 0.26
115 Misc. manufactured products	1.9131	1.9201	1.8656	66	72	74	+ 0.36	- 2.84
116 Non-residential construction	1.9359	1.8969	1.8083	53	80	78	- 2.06	- 4.67
117 Repair construction	1.9359	1.8969	1.8083	53	80	78	- 2.06	- 4.67
118 Rubber, leather & plastic products	1.9198	1.9262	1.8732	55	63	69	+ 0.33	- 2.75
119 Wholesale margin	1.6414	1.6502	1.5848	91	98	100	+ 0.53	- 3.96
120 Retail margin	1.5694	1.5886	1.4943	94	102	103	+ 1.21	- 1.94
121 Other finance ins. & real estate	1.4079	1.3994	1.4073	104	110	105	- 0.61	+ 0.56
122 Business services	1.6487	1.5998	1.5650	90	100	101	- 3.06	- 2.18
123 Personal & other misc. services	1.6329	1.8234	1.5599	92	85	102	+*10.45	-*14.45
124 Transportation margin	*2.5050	*2.5374	*2.4525	7	4	19	+ 1.28	- 3.35
125 Operating office lab. & food	2.3836	2.3121	2.2513	19	29	31	- 3.09	- 2.63
126 Travel advertisement & promotion	2.3855	*2.7318	*2.5272	18	1	15	+*12.68	- 8.10
127 Imputed rent owner occupied dwellings	1.3938	1.3868	1.3959	103	111	106	- 0.50	+ 0.66
128 Machinery & equipment	1.9113	1.9225	1.8731	69	70	70	+ 0.58	- 2.57
129 Residential construction	1.9359	1.8966	1.8083	53	81	78	- 2.07	- 4.66

Continued .....

Table 3a continued

Commodity	1961	1966	1971	Ranks[1] 1961	1966	1977	Percentage change 1961-1966	Percentage change 1966-1971
130 Nursery stock & related mat.	1.7418	1.7486	1.7755	86	94	90	+ 0.39	+ 1.54
131 Animal mat. for drugs & perfume	*2.5376	*2.4844	*2.6938	2	9	5	- 2.14	- 8.43
132 Custom work meat & food	2.2573	2.3335	2.3155	23	27	28	+ 3.27	- 0.77

*Relatively high values 2.4000 and above for multipliers and 9 and above for percentage changes.

+Percentage increases in multipliers.

-Percentage decreases in multipliers.

[1]The ranks go up to 109 for 1961, 115 for 1966 and 110 for 1971.

Table H2. Agricultural Commodities with Considerable Steady Percentage Increases in their Final Demand Multipliers Between 1961 and 1971

Commodity Number and Name	Percentage Change 1961-1966	1966-1971
50. Oilseed meal and cake	+10.58	+29.96
78. Vegetable oils and fats crude	+11.92	+28.42
83. Feeds of vegetable origin not elsewhere specified	+ 9.87	+11.93
60. Carbonated beverage soft drinks	+11.56	+ 4.85
59. Soft drinks concentrates and syrup	+10.75	+ 4.40
49. Molasses, sugar refinery products	+ 1.33	+13.26
81. Feeds for commercial livestock	+14.25	+ 0.09
80. Primary or concentrated feeds	+14.21	+ 0.03

Among the agricultural commodities with very low or zero final demand multipliers, in ascending order were: rice unmilled (1961, 1966 and 1971), prepared cake and similar mixe (1961), sugar (1961, 1966 and 1971), vegetable oils and fats crude (1961), beet pulp (1966 and 1971) and fishing and trapping products (1971). Although it is among the very low value multipliers, the prepared cake and similar mixes commodity category had the highest multiplier change, in the first sub-period of +60.31 percent and of a net change of +56.19 percent over the entire study period.

Horse meat fresh chilled and frozen displayed the most considerable decrease in any one year when its multiplier fell in

1966 by 15.77 percent below that of 1961. The decreasing trend continued in 1971, though by a lesser amount of 4.40 percent below the 1966 level. The next ranking commodity multiplier was that of margarine, shortening and like products, which decreased 9.95 percent from 1961 to 1966 and 10.38 percent from 1966 to 1971. The only non-agricultural related commodity with considerable decreases in its multiplier was communication services and it ranked next to the latter. On average there were greater decreases in final demand multipliers between 1966 and 1971 than in the first sub-period.

As to final demand multipliers, not only did several agricultural commodities display a high and increasing potential for stimulating the economy, but also significantly high changes in the levels of these total impacts were noted. There were considerable fluctuations in the ranks of the majority of commodities. However,steady and major changes were noted among the ranks of a variety of agricultural related commodities between the two sub-periods. These are presented in Table H3.

Table H3. Major Changes in Ranks of Final Demand Multipliers for a Variety of Agricultural Commodities

Commodity	Rising Ranks			Falling Ranks		
	1961	1966	1971	1961	1966	1971
1. Vegetable oils and fats crude	106	106	51			
2. Carbonated beverage soft drinks	76	50	34			
3. Soft drinks concentrate and syrup	74	51	35			

Continued.....

Table H3 (continued)

Commodity	Rising Ranks			Falling Ranks		
	1961	1966	1971	1961	1966	1971
4. Primary or concentrated feeds	35	23	23			
5. Feeds for commercial livestock	34	22	22			
6. Horse meat fresh, chilled and frozen				2	34	49
7. Sausage casings natural and synthetic				2	6	21
8. Soups canned				29	42	42
9. Biscuits				36	47	48
10. Poultry canned				1	2	6

It may also be noted that the top ten multipliers were almost all agricultural related and most of them at least remained among the top ten over the study period.

The data in Table 3b depicts that among the commodities that had a great impact on their processing or user industries were a variety of agricultural related products, as well as other industrial manufactured products and services. Among the agricultural products, meat cured and meat prepared, cooked not canned had the highest average impacts on slaughtering and meat processing over the study period. The impacts of non-agricultural commodities on the manufacturing excluding the food industry were higher than agricultural ones by an average of 18 percent.

Table 3b. Relatively high impact coefficients (1.1100 and above)[1]

Commodity	Industry	3 Slaughtering & meat processing			5 Dairy factories	8 Feed manufacturing	24 Manufacturing excluding food			26 Transport & storage
		1961	1966	1971	1971	1971	1961	1966	1971	1971
9	Horse meat fresh, chilled, frozen	1.1377								
10	Meat cured	1.1374	1.1370	1.1405						
11	Meat prepared, cooked not canned	1.1371	1.1366	1.1401						
13	Animal oils & fats & lard	1.1133		1.1241						
15	Sausage casings, natural & synthetic	1.1377	1.1374							
131	Animal material for drugs & perfume	1.1377								
17	Milk whole, fluid, processed				1.1250					
19	Fresh cream				1.1246					
20	Butter				1.1168					
22	Milk evaporated			1.1192	1.1251					
24	Other dairy products				1.1164					
80	Primary or concentrated feeds			1.1208		1.1156				
83	Feeds of vegetable origin nes.*					1.1317				
94	Textile products						1.3579	1.3922	1.3823	
95	Knitted products & clothing						1.3939	1.4220	1.3893	
96	Lumber sawmill, & other wood products						1.4046	1.4305	1.3857	
97	Furniture & fixtures						1.4008	1.4300	1.3838	
98	Paper & paper products						1.4043	1.4326	1.3887	
99	Printing & publishing						1.4066	1.4346	1.3884	
104	Primary metal products						1.4069	1.4357	1.3899	
105	Metal fabricated products						1.4032	1.4321	1.3867	
106	Non-metallic mineral products						1.4010	1.4285	1.3842	
107	Petroleum & coal products						1.3919	1.4107	1.3597	
108	Chemicals & chemical products						1.3855	1.3764	1.3007	
109	Nitrogen function compounds nes.*						1.3453	1.3435	1.3173	
110	Autos, trucks & other trans. equipment						1.4004	1.4312	1.3844	
112	Elect. & communications products						1.3664	1.3909	1.3448	
115	Misc. manufactured products						1.3838	1.4085	1.3550	
118	Rubber, leather & plastic products						1.3982	1.4297	1.3857	
128	Machinery & equipment						1.3773	1.4219	1.3795	
111	Transportation & storage									1.1181

[1]Coefficients are taken from impact coefficient tables for 1961, 1966 and 1971 as given in Appendix C.
*Not elsewhere specified

The implication that may be drawn here is that non-agricultural manufactured products were exerting greater combined direct and indirect impacts on the manufacturing excluding food industry than were agricultural commodities on their related industries. A steady decline in the impact coefficients was noted for horse meat, sausage casings natural and synthetic and animal materials for drugs and perfume. This finding is probably not very surprising because use of these commodities has diminished over the years as food technology, other scientific advances and changes in peoples' tastes and preferences have allowed and necessitated substitutions and replacement of materials and products. A steady increasing trend was noted for dairy products and for transportation and storage impact coefficients. This may reflect the increased use of dairy products in food manufacturing and the increased need for transport and storage in manufacturing. Among the high impact commodities, structural change may thus be said to have been experienced by those commodities with considerable declines and increases in their coefficients.

4. Measure IV

Measure IV looks at the level and changes in percent of domestic commodity output that goes to final demand as compared to the percent that is for intermediate use. The results of this measure, as presented in Table 4, show that 35 commodities (30 of which were agricultural related) had particularly high percentages of their output (above 75 percent) going to final demand. Table I1 presents the ten rankings of the agricultural related commodities with the highest

Table 4. Value of domestic commodity output to final demand as a percentage of total domestic commodity output in 1961, 1966 and 1971

Commodity		1961	1966	1971
1	Cattle and calves	18.82	6.16	8.84
2	Sheep and lambs	0	7.98	19.26
3	Hogs	4.65	7.91	3.90
4	Poultry	11.59	11.32	8.68
5	Poultry, fresh, frozen, chilled	65.15	74.20	68.93
6	Poultry, canned	75.07	78.84	64.50
7	Other live animals	64.52	52.59	48.84
8	Beef, veal, mutton, pork fresh & frozen	65.77	69.68	67.88
9	Horse meat fresh, chilled, frozen	63.07	73.11	76.56
10	Meat cured	78.15	79.08	72.88
11	Meat prepared, cooked not canned	78.38	82.43	77.34
12	Meat prepared canned	78.05	83.86	78.73
13	Animal oils & fats & lard	25.86	24.28	34.85
14	Margarine, shortening and like products	71.42	69.98	59.96
15	Sausage casings, natural & synthetic	16.08	0	0
16	Primary tankage	2.59	2.87	0
17	Milk whole fluid processed	86.45	85.60	80.75
18	Milk whole fluid unprocessed	5.81	6.19	3.90
19	Fresh cream	67.07	62.71	72.92
20	Butter	84.84	67.80	58.37
21	Cheese, cheddar & processed	74.02	74.74	75.18
22	Milk evaporated	84.98	85.24	81.41
23	Ice cream	90.03	90.49	89.29
24	Other dairy products	66.03	63.25	64.92
25	Rice unmilled	0	0	0
26	Wheat unmilled	60.01	84.29	72.25
27	Barley, oats, rye, corn, grain nes	0	28.56	57.28
28	Wheat flour	53.83	50.93	40.84
29	Fruits fresh except tropical	38.63	41.30	35.24
30	Vegetables fresh	54.18	51.64	45.60
31	Vegetables fresh, frozen, dried & preserved	39.00	67.20	72.23
32	Vegetables & preparations canned	83.43	84.08	81.79
33	Fruits, berries, dried, crystallised	0	1.84	26.58
34	Fruits & preparations canned	75.25	73.17	64.39
35	Eggs in the shell	87.95	87.97	80.24
36	Nuts, edible not shelled	0	0	0
37	Seeds exc. oil & seed grades	32.57	36.24	36.18
38	Oilseeds, nuts and kernels	7.48	24.40	60.27
39	Nuts, kernels and seeds prepared	52.14	46.33	49.25
40	Meal & flour of other cereals & veg.	50.31	19.87	20.06
41	Breakfast cereal products	92.59	93.53	93.01
42	Biscuits	89.74	90.58	89.08
43	Bread and rolls	86.83	86.07	81.53
44	Other baking products	86.53	86.98	83.42
45	Cocoa and chocolate	0	0	0
46	Chocolate confectionery	99.52	99.68	99.63

Continued.....

Table 4 continued

Commodity		1961	1966	1971
47	Other confectionery	98.40	98.42	97.86
48	Sugar	43.42	39.56	39.69
49	Molasses, sugar refinery products	52.84	27.33	0
50	Oilseed meal and cake	0	0	0
51	Maple sugar and syrup	65.93	62.50	40.37
52	Prepared cake and similar mixes	72.92	71.27	75.97
53	Beet pulp	4.56	0	15.92
54	Soups, dried & soup mixes & bases	88.76	90.46	89.63
55	Coffee, roasted, ground, prepared	90.40	91.56	89.88
56	Tea	34.75	33.50	44.59
57	Potato chips and similar products	100.00	100.00	100.00
58	Miscellaneous food nes*	51.76	43.88	54.47
59	Soft drink concentrates & syrup	0.001	0.67	2.04
60	Carbonated beverage soft drinks	91.39	91.89	92.77
61	Soups canned	91.32	91.94	90.64
62	Pickles, relishes, other sauces	86.46	88.12	85.60
63	Vinegar	72.99	69.23	69.84
64	Other food preparations	87.50	91.64	89.83
65	Fish products	77.05	79.38	75.86
66	Mustard mayonnaise	88.11	88.64	87.63
67	Honey and beeswax	75.99	67.65	66.75
68	Malt, malt flour & wheat starch	31.96	30.32	37.27
69	Alcoholic beverages distilled	91.14	90.35	89.32
70	Alcohol, natural ethyl	3.95	8.44	3.05
71	Brewers & distillers' grains	37.50	41.22	39.29
72	Ale, beer, stout & porter	96.27	95.51	95.89
73	Wines	90.85	89.59	90.08
74	Tobacco processed unmanuf.	25.97	24.24	22.26
75	Cigarettes	100.00	100.00	100.00
76	Tobacco manuf. except cigarettes	99.52	97.18	97.40
77	Tobacco raw	11.57	28.43	0
78	Vegetable oils & fats, crude	0	0	0
79	Feed of animal origin nes*	1.19	0	31.52
80	Primary or concentrated feeds	1.77	0	2.84
81	Feeds for commercial livestock	2.19	3.13	4.64
82	Feeds, grain origin nes	7.05	12.56	19.61
83	Feeds of veg. origin nes*	0	0	52.93
84	Pet feeds	95.46	96.49	94.39
85	Infant and junior foods canned	100.00	100.00	100.00
86	Hops including lupulin	0	57.08	0
87	Hay, forage and straw	0	0	0
88	Hides and skins raw nes*	2.67	37.24	21.93
89	Mink skins, ranch & undressed	45.64	40.85	0
90	Wool in grease	0	0	1.54
91	Services incidental to agric. & forestry	8.20	14.32	21.83
92	Forestry products	8.02	6.72	0

Continued.....

Table 4 continued

Commodity		1961	1966	1971
93	Fishing & trapping products	13.95	16.18	13.22
94	Textile products	0	0	0.26
95	Knitted products & clothing	91.79	91.40	89.02
96	Lumber, sawmill, other wood products	33.64	33.98	35.88
97	Furniture & fixtures	92.15	92.38	92.17
98	Paper and paper products	49.83	48.73	46.87
99	Printing and publishing	15.03	17.16	16.62
100	Metallic ores & concentrates	35.76	32.17	33.46
101	Minerals, fuels	0	0	7.32
102	Non-metallic minerals	41.61	39.81	43.73
103	Services incidental to mining	44.02	38.55	29.92
104	Primary metal products	30.49	24.48	25.43
105	Metal fabricated products	0	0	0
106	Non-metallic minerals products	0	0	0
107	Petroleum & coal products	36.42	33.31	39.78
108	Chemicals, chemical products	17.12	17.38	18.73
109	Nitrogen function compounds nes*	0	0	0
110	Autos, trucks, other transp. equipment	54.99	53.17	53.46
111	Transportation and storage	23.99	24.81	24.29
112	Elec. & communications products	41.14	40.36	39.38
113	Communication services	40.89	40.97	44.03
114	Other utilities	50.26	48.04	52.10
115	Misc. manufactured products	36.20	38.29	31.22
116	Non-residential construction	100.00	100.00	100.00
117	Repair construction	27.24	27.46	23.98
118	Rubber, leather, plastic products	39.55	30.02	18.80
119	Wholesale margin	45.74	47.37	49.10
120	Retail margin	89.17	88.63	88.23
121	Other finance, insurance & real estate	55.68	56.48	56.54
122	Business services	15.45	12.89	12.45
123	Personal & other misc. services	73.65	70.45	70.81
124	Transportation margin	41.14	41.95	44.55
125	Operating office & lab. & food	18.97	20.01	23.07
126	Travel, advertisement & promotion	10.42	11.28	13.53
127	Imputed rent, owner occupied dwellings	100.00	100.00	100.00
128	Machinery & equipment	22.71	38.66	23.20
129	Residential construction	100.00	100.00	100.00
130	Nursery stock & related material	50.75	64.32	77.23
131	Animal material for drugs & perfume	0	54.92	15.77
132	Custom work meat & food	0	1.23	1.96

*Not elsewhere specified

percentages of output to final demand.

Table I1. Ten Rankings of the Agricultural Related Commodities with Highest Percentages of Output to Final Demand

Rank \ Year & Range	1961 (100-90.85%)	1966 (100-90.40%)	1971 (100-90.08)
1.	Potato chips and similar products	Potato chips and similar products	Potato chips and similar products
-	Cigarettes	Cigarettes	Cigarettes
-	Infant and junior foods canned	Infant and junior foods canned	Infant and junior foods canned
2.	Chocolate confectionery	Chocolate confectionery	Chocolate confectionery
-	Tobacco manufactured excluding cigarettes	Other confectionery	Other confectionery
3.	Other confectionery	Tobacco manufactured	Tobacco manufactured
4.	Ale, beer, stout and porter	Pet feeds	Ale, beer, stout and porter
5.	Pet feeds	Breakfast cereal products	Pet feeds
6.	Breakfast cereal products	Soups canned	Breakfast cereal products
7.	Carbonated beverage soft drinks	Carbonated beverage soft drinks	Carbonated beverage soft drinks
8.	Soups canned	Other food preparations	Soups canned
9.	Alcoholic beverage distilled	Coffee roasted, ground, prepared	Wines
10.	Wines		

The commodities in Table I1 include those which require the least processing or those which are not used as raw materials for production of other commodities. There were no major changes in the percentages of

the top ten ranking commodities. Butter and wheat unmilled are the two commodities with outstanding changes in their contributions to final demand. In 1966 the percent for butter declined from 84.84 percent in 1961 to 67.80 percent and from that to 58.37 in 1971. Structural change in butter is well pronounced by the increasingly declining trend over the study period, reflecting medical findings which necessitated development of butter substitutes and encouraged reduced final consumption. Wheat unmilled had opposing changes, rising from 60.01 percent in 1961 to 84.29 percent in 1966 and then declining to 72.25 percent in 1971.

Among commodities with medium high percentages of output going to final demand major changes were mostly decreases, except for vegetables fresh, frozen, dried and preserved, and nursery stock and related materials which were increasingly supplying final markets. Decreases in percentages of output to final demand were noted for the following agricultural related commodities: other live animals, margarine, shortening and like products, wheat flour, molasses sugar refinery products, maple sugar and syrup and mink skins ranch and undressed.

Thirty-eight commodities had particularly low percentages of their output (below 20 percent) going to final demand for most of the study period, and all except ten were agriculture related commodities. Table I2 presents ten rankings of these low percentage commodities.

Table I2. Ten Rankings of Agricultural Related Commodities with the Lowest Percentages of Output to Final Demand

Rank \ Year & Range	1961 (0-4.65%)	1966 (0-7.98%)	1971 (0-8.84%)
1.	Sheep and lambs	Sausage casings natural and synthetic	Sausage casings natural and synthetic
-	Rice unmilled	Rice unmilled	Primary tankage
-	Barley, oats, rye, corn, grain, nes	Nuts edible not shelled	Rice unmilled
-	Fruits, berries, dried crystallised	Cocoa and chocolate	Nuts, edible not shelled
-	Nuts, edible not shelled	Oilseed meal and cake	Cocoa and chocolate
-	Cocoa and chocolate	Beet pulp	Molasses, sugar refinery products
-	Oilseed meal and cake	Vegetable oils and fats crude	Oilseed meal and cake
-	Vegetable oils and fats crude	Feeds of animal origin nes	Tobacco raw
-	Feeds of vegetable origin nes	Primary or concentrated feeds	Vegetable oils and fats crude
-	Hops including lupulin	Feeds of vegetable origin nes	Hops including lupulin
-	Hay forage and straw	Hay forage and straw	Hay forage and straw
-	Wool in grease	Wool in grease	Mink skins, ranch and undressed
-	Textile products	Textile products	Forestry products
2.	Soft drinks concentrates and syrup	Soft drinks concentrates and syrup	Textile products
3.	Feeds of animal origin nes	Fruits berries dried crystallised	Wool in grease
4.	Primary or concentrated feeds	Primary tankage	Soft drinks concentrates and syrup
5.	Feeds for commercial livestock	Feeds for commercial livestock	Primary or concentrated feeds
6.	Primary tankage	Cattle and calves	Alcohol, natural ethyl

Continued.....

Table I2 (continued)

Rank \ Year & Range	1961 (0-4.65%)	1966 (0-7.98%)	1971 (0-8.84%)
7.	Hides and skins raw nes	7. Milk whole fluid unprocessed	7. Hogs
8.	Alcohol, natural ethyl	8. Forestry products	8. Feeds for commercial livestock
9.	Beet pulp	9. Hogs	9. Poultry
10.	Hogs	10. Sheep and lambs	10. Cattle and calves

Considerable changes in percentages were noted for the feeds of vegetable origin (0, 0, 52.93)[5]; hops including lupulin (0, 57.08, 0); animal materials for drugs and perfume (0, 54.92, 15.77); feeds of animal origin not elsewhere specified (0, 1.19, 31.52); and tobacco raw (11.57, 28.43, 0). On average, major changes among the smallest percentages were increases. Steady increases were noted for sheep and lambs; barley, oats, rye, corn grain not elsewhere specified; fruits, berries, dried, crystallised; oilseeds, nuts and kernels; feeds of grain origin not elsewhere specified; and services incidental to agriculture and forestry. Steady decreases were noted for mink skin ranch undressed.

Looking at the results in Table 4 we note that, unlike the findings of Carter[6] in respect to the American economy, the value (or percent) of intermediate output that is required by industries in

[5]The percentage values in the brackets refer to 1961, 1966 and 1971 respectively.

[6]Carter, op. cit., p. 33.

their production processes is not equal to the value (or percent) of gross national product or final demand over the study period. In fact 124 commodities exhibited great differences, 35 industries with percentages above 75 percent and 38 industries with percentages below 20 percent of output going to final demand for most or all through the study period. Only eight industries exhibited some tendency towards equal contributions to intermediate use and final demand. Among them were wheat flour; vegetables fresh; and nuts, kernels and seeds prepared as the agricultural related commodities.

In comparison to the study by Josling and Trant[7], in respect to Canada for the year 1958, they found that among the farm sectors only eggs (92.9 percent), poultry (73.7 percent), fruits and vegetables (77.3 percent) and wheat (61.8 percent) sold more than half of their output to final demand. Josling and Trant further commented that "the foods industries typically sell most of their products to final demand sectors. Intermediate sales are of minor importance". The disaggregation of commodities in the current study has illustrated that although many food products are sold mostly to final demand sectors, there are many agricultural related products to which intermediate transactions are of greatest importance. However the increasing tendency exhibited in Table 4 by some low percentage commodities over the study period may be used to support Josling and Trant's comment. As to the percentages of eggs, poultry, fruits and vegetables, and wheat, there was a definite decline and this may be

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[7]Josling and Trant, op. cit., pp. 16-17.

interpreted as structural change. The same may be said about feeds of animal and vegetable origins which experienced dramatic changes in their contributions to final demand as more of their output was probably being exported.

5. Measure V

The fifth measure looks at changes in actual numbers of material inputs used and commodities made by each industry. The results of this measure are given in Table 5.

Starting with commodities made, seven industries mostly agriculture related, made 25 or more commodities while 18 industries made 10 or less commodities in the study period. The seven industries which made the most commodities were mostly agriculture and related industries and included agriculture, slaughtering and meat processing, fruit and vegetable processing, feed manufacturing and miscellaneous food. While the agricultural industry showed no change in the commodities made over all the three periods, the miscellaneous food industry exhibited an increasing trend, mostly between 1961 and 1966. The slaughtering and meat processing industry experienced a decrease in commodities made, from 34 commodities in 1966 to 28 commodities in 1971. Among the few commodities producers, the major trend was constancy in numbers, either over the entire period or at least in one of the sub-periods. Where there were any increases, these were noticeable mostly for the second sub-period.

As to commodities used, again agricultural related industries accounted for the majority of major users (55 commodities and above).

Table 5. Number of commodities made and commodities used by each industry in 1961, 1966 and 1971

Industry		Number of commodities made			Number of commodities used		
		1961	1966	1971	1961	1966	1971
1	Agriculture	*29	*29	*29	42	42	44
2	Forestry	8	9	9	24	24	24
3	Slaughtering & meat processing	*33	*34	*28	*59	*60	*58
4	Poultry processing	18	20	18	37	37	37
5	Dairy factories	19	21	22	*57	*56	*58
6	Fish products industry	12	14	12	32	34	36
7	Fruit & veg. processing	*33	*34	*33	*65	*59	*65
8	Feed manufacturing	*28	*28	*26	*56	*55	*56
9	Flour & breakfast cereal industry	18	18	18	51	50	53
10	Biscuit manufacturing	14	14	13	52	51	45
11	Bakeries	13	15	15	*64	*64	*59
12	Confectionery manufacturing	24	23	23	*57	*57	*58
13	Sugar refineries	6	5	7	25	24	30
14	Vegetable oil mills	9	8	10	24	24	26
15	Miscellaneous food industry	*51	*55	*56	*76	*77	*75
16	Soft drinks manufacturing	12	12	11	32	28	27
17	Distillers	10	10	10	31	31	32
18	Breweries	10	10	10	29	30	30
19	Wineries	8	9	9	29	29	30
20	Leaf tobacco processing	5	5	6	20	20	20
21	Tobacco prod. manufacturing	6	6	4	26	26	24
22	Fishing, hunting & trapping	2	2	2	24	24	24
23	Mines, quarries & oil wells	14	13	13	28	29	28
24	Manufacturing excluding food	*39	*40	*40	*64	*64	*60
25	Communications	5	5	5	20	20	20
26	Transport & storage	8	8	8	31	28	29
27	Electric power, gas & other utilities	6	6	7	15	15	17
28	Wholesale trade	*28	*28	*27	40	41	41
29	Retail trade	11	12	12	31	32	32
30	Finance, ins., real estate	3	3	6	15	15	15
31	Community bus., personal service	4	5	6	*87	*86	*86
32	Transport margins	1	1	1	1	1	1
33	Construction	5	5	5	32	33	33
34	Operation, office, lab. & food	2	2	2	*74	*74	*74
35	Travel & advertising promotion	1	1	1	20	20	20

* High values - 25 and above for commodities made, 55 and above for commodities used.

These included slaughtering and meat processing, dairy factories, fruit and vegetable processing, feed manufacturing, bakeries, confectionery manufacturing and miscellaneous food industries. Most industries have displayed opposing changes or fluctuations in the two sub-periods, with a few remaining constant in one of the sub-periods. It is not surprising to note that four of the above seven industries were also noted among high producing industries. The community business and personal service industry, which encompasses food services, used the highest number of commodities (87, 86 and 86) in 1961, 1966 and 1971 respectively. Among high user agricultural related industries, considerable changes were noted only for the fruit and vegetable processing and the bakeries industries.

Among the low commodity users (25 commodities or less) there were five agricultural related industries including forestry, vegetable oil mills, sugar refineries, leaf tobacco processing and fishing hunting and trapping. Here only sugar refineries displayed any reasonable change, increasing its number of commodities used from 24 in 1961 to 30 in 1971. The general tendency was that of constancy in numbers. Among the other agricultural related industries, the biscuit manufacturing industry experienced a definite decline in commodities used.

The results of this measure do not indicate strong structural changes related to changes in number of commodities used or made by a particular industry. Most changes may be attributed to disaggregations and aggregations used in the various census years. However, given the general level of changes in commodities made, structural change tendencies may be claimed to have been experienced by the

slaughtering and meat processing industry. As to commodities used, the same may be said about the biscuit manufacturing, bakeries and sugar refineries industries.

6. Measure VI

The sixth and last measure looks at changes in compound or component growth rates output. The results of this measure, presented in Table 6, indicate that, on average, the Canadian economy grew by five percent per annum over the entire study period, growing more rapidly in the first (5.79 percent) than in the second sub-period (4.24 percent).

The wineries industry experienced the highest average annual rate of growth over the study period (11.41 percent) and the highest growth rate in any one sub-period (13.81 percent between 1966 and 1971). Next to wineries were a variety of service and utility industries and among them the trend was an increasing one. Only one-third of all industries with average growth rates, over the study period, of above the economy's average of five percent, were agricultural related. Five agricultural related industries seem to have grown particularly slowly, below half the economy's average, over the study period. These in descending order included sugar refineries, biscuit manufacturing, forestry and dairy factories. The flour and breakfast cereals industry actually had decreased output (-2.50 percent) between 1966 and 1971. In that same sub-period, the agriculture, forestry, bakeries and fishing, hunting and trapping industries had the lowest growth rates of below one percent.

Table 6. Compound growth rates (%) of industry output for sub-periods 1961 to 1966 1966 to 1971 and for period 1961 to 1971

Industry		Compound growth rates (%) 1961-1966	1966-1971	1961-1971
1	Agriculture	7.41	0.60	3.95
2	Forestry	3.93	0.59	2.25
3	Slaughtering & meat processing	4.84	1.76	3.29
4	Poultry processing	4.31	5.35	4.84
5	Dairy factories	2.94	1.87	2.40
6	Fish products industry	8.29	2.93	5.58
7	Fruit & veg. processing	5.76	1.81	3.76
8	Feed manufacturing	7.77	4.38	6.07
9	Flour & breakfast cereal industry	1.64	-2.50	-0.42
10	Biscuit manufacturing	1.71	2.66	2.19
11	Bakeries	2.47	0.07	1.26
12	Confectionery manufacturing	4.97	2.23	3.59
13	Sugar refineries	3.21	1.11	2.16
14	Vegetable oil mills	8.08	4.25	6.14
15	Miscellaneous food industry	5.05	4.87	4.96
16	Soft drinks manufacturing	5.56	5.04	5.30
17	Distillers	7.01	5.45	6.23
18	Breweries	4.01	4.84	4.42
19	Wineries	9.07	13.81	11.41
20	Leaf tobacco processing	1.52	4.67	3.08
21	Tobacco products manufacturing	3.32	2.53	2.93
22	Fishing, hunting & trapping	7.02	0.40	3.66
23	Mines, quarries & oil wells	6.48	5.96	6.22
24	Manufacturing excluding food	9.01	3.90	6.42
25	Communications	9.68	11.43	10.55
26	Transportation & storage	6.06	5.14	5.60
27	Elect. power, gas & other utilities	6.59	7.62	7.10
28	Wholesale trade	7.90	5.25	6.57
29	Retail trade	4.61	4.20	4.41
30	Finance ins. & real estate	5.59	6.19	5.90
31	Community business, pers. services	6.83	8.45	7.64
32	Transportation margins	6.06	9.21	7.62
33	Construction	6.06	5.07	5.57
34	Operation, office, lab. & food	9.25	5.48	7.34
35	Travel & advert. promotion	8.65	1.80	5.17
Total Average		5.79	4.24	5.00

Major growth rate changes were experienced by primary agriculture and a variety of related industries. These included forestry, slaughtering and meat processing, fish products, fruit and vegetable processing, feed manufacturing, vegetable oil mills, wineries, leaf tobacco processing, and fishing, hunting and trapping. These major changes in the growth rates of agricultural industries may be closely related to and accounted for by the considerable structural changes in the various agricultural commodities and general industrial services. These were in turn so essential for the promotion of increased agricultural production in response to technological and final demand changes. Measure VI also indicated that growth in the second sub-period was particularly slow for agriculture and most related industries, which may demonstrate the long term adjustments characteristic of the agricultural economy.

CHAPTER VI

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

In this study, structural change has been used to refer first to changes in the allocation of inputs, or their combinations, from one period to another in the production and marketing of both intermediate and final outputs. Secondly it refers to changes in types and levels of output. The hypothesis set up for this study was that there were major structural changes in the Canadian agriculture and related industries between 1961 and 1971, changes which could be adequately measured using any or all the six measures which were established and described in Chapter IV. Some relevant conclusions derived from the results of the present study are presented first. The major limitations encountered by the study and recommendations for further research are then presented in the final section.

Conclusions

Using the summary of findings on the agricultural economy presented in Table 7, some conclusions are drawn based on one or a combination of the measures used.

In respect to the first measure, the model indicated major changes and thus suggested structural changes for the miscellaneous foods, eggs, fishing, trapping, poaching and products, and textiles and clothing commodity groups. For the other commodity groups listed in Table 7, changes were indicated for one or the other sub-periods of the study. Close scrutiny of the results indicated that over the study period the primary agriculture industry directly required less

Table 7. Summary of Major Changes in the Agricultural Economy Indicated by Measures I to VI

I Commodity Input Groups	II Industries	III Commodities	IV Commodities	V Industries	VI Industries
1. Miscellaneous foods[a] 2. Eggs[a] 3. Fishing, trapping poaching and products[a] 4. Textiles and clothing[a] 5. Fresh and frozen meats[b] 6. Sugar, maple sugarand refinery products[b] 7. Forestry products[b] 8. Fresh fruits and vegetables[c] 9. Grains including wheat and flour[c,d] 10. Confectioneries[c] 11. Alcohol ingredients and products[c] 12. Tobacco and products[c] 13. Live animals[d]	1. Feed manufacturing[e,f,h,n,p,q] 2. Wineries[e,k,l] 3. Agriculture[o] 4. Flour and breakfast cereals[g,h,k,l,n,o,p,q] 5. Soft drinks manufacturing[g,k,l] 6. Forestry[i,k] 7. Bakeries[i,k] 8. Sugar refineries[i] 9. Miscellaneous foods[i,j] 10. Fishing, hunting and trapping[i,k] 11. Fruit and vegetable processing[k] 12. Distillers[k] 13. Leaf tobacco processing[k,l] 14. Poultry processing[m]	1. Prepared cake and similar mixes[r] 2. Oilseed meal and cake[r] 3. Vegetable oils and fats crude[r,t4] 4. Feeds of vegetable origin nes*[r] 5. Carbonated beverage soft drinks[r,t1] 6. Soft drinks concentrates and syrup[r,t1] 7. Molasses, sugar refinery products[r] 8. Feeds for commercial livestock[r,t1] 9. Primary or concentrated feeds[r,t1] 10. Poultry, fresh, frozen and chilled[r] 11. Horse meat[s,t2,u1] 12. Sausage casings[t2,u1] 13. Soups canned[t2] 14. Biscuits[t2] 15. Poultry canned[t2] 16. Animal materials for drugs and perfume[u1] 17. Dairy products[u2]	1. Butter[v] 2. Wheat unmilled[v,w] 3. Vegetables fresh, frozen dried and preserved[w] 4. Nursery stock and related materials[w] 5. Other live animals[v] 6. Margarine shortening and like products[v] 7. Wheat flour[v] 8. Molasses, sugar refinery products[v] 9. Maple sugar and syrup[v] 10. Mink skins ranch and undressed[v] 11. Feeds of vegetable origin[w] 12. Hops including lupulin[w] 13. Animal materials for drugs and perfume[w] 14. Feeds of animal origin nes*[w] 15. Tobacco raw[w] 16. Sheep and lambs[w] 17. Barley, oats, rye, corn, grain nes[w] 18. Fruits, berries, dried, crystallised[w] 19. Oilseeds nuts and kernels[w] 20. Feeds of grain origin nes[w] 21. Services incidental to agriculture and forestry[w]	1. Sugar refineries[x] 2. Biscuit manufacturing[x] 3. Slaughtering and meat processing[y]	1. Agriculture[z1] 2. Forestry[z1] 3. Slaughtering and meat processing[z1] 4. Fish products[z1] 5. Fruit and vegetable processing[z1] 6. Feed manufacturing[z1] 7. Vegetable oil mills[z1] 8. Wineries[z2] 9. Leaf tobacco processing[z2] 10. Fishing, hunting and trapping[z1]

[a] Decreasing technical coefficients 1961-1971
[b] Decreasing technical coefficients 1961-1966
[c] Decreasing technical coefficients 1966-1971
[d] Increasing technical coefficients 1961-1966

[e] Increasing total costs/dollar output
[f] Increasing labour costs/dollar of output
[g] Increasing material costs/dollar of output
[h] Changes in percent of labour costs
[i] Steady increase in percent of labour costs
[j] Increasing percent of capital costs
[k] Declining percent of capital costs
[l] Increasing percent of material costs
[m] Declining percent of material costs
[n] Changes in labour share patterns
[o] Changes in capital share patterns
[p] Changes in material share patterns
[q] Changes in combined inputs patterns

[r] Increasing multipliers
[s] Decreasing multipliers
[t1] Rising ranks of multipliers
[t2] Falling ranks of multipliers
[u1] Steadily declining impacts
[u2] Steadily increasing impacts

[v] Decreasing percent of output to final demand
[w] Increasing percent of output to final demand

[x] Changes in commodities used
[y] Decrease in commodities made

[z1] Decrease in growth rate
[z2] Increase in growth rate

and less in value of most material inputs per dollar of industrial output, thus suggesting that some structural change related to technological and price changes had occurred. Measure one also indicated that the agricultural economy, like the rest of the economy, experienced some structural change measured by considerable increases in the value ratios of services like transportation equipment, wholesale and retail margins, communication services and services in general. It is suggested that as the economy grew, a greater variety and more reliable services were consequently needed and developed to support and further such growth. Economies of large scale farming and food manufacturing were characteristic of the early sixties, leading to growth of trade among industries and with final consumers both in Canada and abroad. Thus the need for more and efficient transportation equipment, wholesale, retail, communications and a variety of other services. It is not very easy however to accurately determine whether growth in use value ratios of these services was due to rising costs, to more services being provided to user industries or due to mere transfers of operations as a result of industrial specialisation - i.e., an increase in rented or contracted services to industries that used to provide themselves with these services.

According to Measure II major total cost changes were experienced only by the feed manufacturing and the wineries industries. As to individual input costs, while feed manufacturing experienced the major changes in labour costs, the flour and breakfast cereal together with the soft drinks manufacturing industries had major changes in their material costs. Under this measure, the feed manufacturing and

the flour and breakfast cereal industries are considered to have experienced the most structural change although the changes are rather too dramatic.

Under Measure III agricultural related commodities stood out clearly with major structural transformations related to impact coefficients and final demand multipliers. The prepared cake and similar mixes commodity category had the greatest change in its multiplier over the study period. Oilseed meal and cake and vegetable oils and fats crude experienced the next outstanding changes. While the impact coefficients of dairy products were rising, those for horse meat, sausage casings and animal materials for drugs and perfume were falling and these changes may be interpreted as structural changes for these commodities. Combining the results of Measures I and III we found that they both indicated some structural change tendencies for miscellaneous foods, fresh and frozen meats, and sugar, maple sugar and refinery products.

Measure VI, also dealing with commodities, indicated that among a variety of agricultural commodities, butter had major changes that suggest structural transformations in the making and use of the product. Combining the results of Measure VI with those of Measures I and III, we conclude that sugar, maple sugar and refinery products had structural changes that were indicated and measured by three measures. Measures III and IV indicate consistency of changes in feed manufacturing products and vegetable oil mills products.

Although Measure V had no very strong structural change indications, some reasonable changes were noted for the sugar refineries,

biscuit manufacturing and slaughtering and meat industries. Structural change in the sugar refineries industry, as already indicated in the industry's commodities, is hereby reaffirmed. Structural change in the slaughtering and meat processing industry has also been indicated in Measures I and II under meat products.

Measure VI reaffirms structural change in a number of commodities and industries. These include agriculture, forestry, fruit and vegetable processing, fishing, hunting and trapping, leaf tobacco processing, feed manufacturing, slaughtering and meat processing and vegetable oil mills industries and products.

Combining the results of all six measures, the study concluded that major structural changes were experienced by a variety of Canadian agriculture and related industries particularly by the sugar refineries, primary agriculture, forestry, fruit and vegetable processing, feed manufacturing, tobacco processing, miscellaneous foods, fishing, hunting and trapping, slaughtering and meat processing and vegetable oil mills industries. However, the feed manufacturing and the flour and breakfast cereal industries experienced the most structural changes particularly related to changes in their input combinations or resource allocations.

Limitations

Basic limitations, characteristic of the input-output model, and others related to data, industrial classifications and methodology, have affected the drawing of concrete conclusions from the results of this study. The basic limitation here is related to the fixed coef-

ficients assumption, a feature of the input-output model which, as noted by Carter[1] and other economists, makes implementation very practical but does not facilitate the making of conventional distinctions when making an economic analysis of production functions. For instance, the decreasing trends exhibited by the commodity groups' coefficients in Measure I might have indicated long or short term substitution of products due to price and quality changes, new inventions, innovations and diffusions of technological breakthroughs, or a combination of these factors. The recognition of the obscurity of results presented by the reaggregation of commodities, let alone the original classification at 132 commodities which still lumps old and new, close substitutes and related products in the same category, presents another dimension to the limitations of this study.

The rectangular input-output system used in this study presents another problem in analysing the interdependencies between agricultural related industries. This is because whenever two or more commodities are produced solely by one industry in the economy, the impact coefficients of these commodities, through different between industries, are identical within a single producing industry. For example, reading across the agriculture industry row in the impact matrix for 1971, given in Table 3e of Appendix C, we find that for a dollar increase in the final demand for cattle and calves, sheep and lambs, hogs, other live animals, milk whole fluid unprocessed, seeds except oil and seeds grades, tobacco raw, hops including lupulin, mink skins ranch

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[1]Carter, op. cit., p. 217.

and undressed, wool in grease, and nursery stock and related materials commodities, the agriculture industry had to increase its production by $1.075 in each case. Also for each year the final demand multipliers for all these commodities are identical. This situation is considered to be unrealistic, in view of the differences among the roles of these products in the economy.

Indeed, compilation of an input-output table is a long and costly process, in spite of the wide use and availability of computer services, resulting in the availability of the data after long lag periods, rendering such data less useful to current decision making processes. Unavailability of the 1976 input-output table at the time of this analysis deprived the study of a fourth point which would have been useful in drawing conclusions and in testing the accuracy of the measures of change used.

Recommendations

This study's recommendations range from fundamental innovation in the analysis to a general need for more information. In respect to the innovation of the current analysis, research is desirable in methods of incorporating qualitative changes in inputs and in outputs into the analysis of structural change using an input-output approach. Secondly, given the current micro-theory standards, the orders of classifications even as large as used in this study are still considered broad aggregates. In view of the computer services already available, further disaggregations of both commodities and industries are desirable for analyses of specific nature. A wider application

of the model to specific regional economies would be more useful for the policy decision making process. However, recommendations on policy decisions are hard to make and cannot be that useful if the information on which they are based is years old. Thus production of input-output tables at a faster rate and at shorter intervals should be given greater attention. It is further recommended that when the 1976 input-output table becomes available, another run should be made on the model, to allow incorporation of a fourth point in the analysis.

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A P P E N D I X A

14 Alcoholic beverages & products	15 Tobacco & products	16 Feeds of animal & veg. origin	17 Fishing trapping poaching & products	18 Forestry products	19 Textiles & clothing	20 Printing & publishing	21 Metallic mining & products	22 Non-metallic mining & products	23 Mineral Fuels, petroleum & coal products	24 Chemicals & products	25 Transportation Equipment	26 Transportation storage & transport margins	27 Miscellaneous products	28 Communication services	29 Nursery stock & related materials	30 Services	31 Other utilities	32 Construction	33 Wholesale & retail margins	34 Machinery & equipment	35 Other material inputs
0	0	0.20938	0	0.01316	0.01186	0	0.00494	0.00342	0.12473	0.08035	0.00066	0.04797	0.00362	0.00684	0.00207	0.05943	0.01999	0.03776	0.08932	0.07839	0.18775
0	0	0.26195	0	0.00977	0.00924	0	0.00520	0.00253	0.09261	0.09653	0.00044	0.03974	0.00335	0.00651	0.00184	0.05531	0.00216	0.05254	0.08142	0.02047	0.22113
0	0	0.22608	0	0.00887	0.00674	0	0.01235	0.00262	0.09308	0.08665	0.00046	0.04782	0.00436	0.00607	0.00317	0.05263	0.02196	0.04206	0.09070	0.02315	0.20634
0	0	0.01078	0	0.23513	0.00502	0	0.01373	0.00025	0.04903	0.00269	0.00390	0.08768	0	0.00643	0	0.10231	0.00398	0.04686	0.02135	0.00944	0.39239
0	0	0.00829	0	0.20743	0.00502	0	0.01412	0.00024	0.04592	0.00283	0.00382	0.08145	0	0.00638	0	0.12486	0.00374	0.03549	0.02024	0.00939	0.43566
0	0	0.00299	0	0.18698	0.00490	0	0.01423	0.00074	0.03650	0.00781	0.00401	0.16883	0	0.00504	0	0.14462	0.00150	0.02625	0.01987	0.00901	0.40019
0.00008	0	0.00321	0.00006	0.01969	0.00135	0	0.00582	0.00116	0.00295	0.00507	0	0.02218	0.00078	0.00354	0	0.01629	0.00415	0.00237	0.01989	0	0.01958
0.00007	0	0.01327	0.00158	0.01813	0.00112	0	0.00487	0.00075	0.00251	0.00373	0	0.02243	0.00314	0.00353	0	0.01702	0.00383	0.00202	0.02077	0	0.02187
0.00007	0	0.01429	0	0.01350	0.00037	0.00169	0.00536	0.00059	0.00197	0.00377	0	0.02632	0.00374	0.00350	0	0.01880	0.00370	0.00749	0.02535	0	0.02781
0	0	0	0	0.03701	0.00038	0	0.00401	0.00032	0.00517	0.00774	0	0.02911	0.00387	0.00344	0	0.01002	0.00497	0.00317	0.02481	0	0.02820
0	0	0	0	0.02734	0.00055	0	0.00288	0.00043	0.00475	0.00932	0	0.02745	0.00425	0.00347	0	0.01083	0.00529	0.00185	0.02911	0	0.02363
0	0	0	0	0.03399	0.00057	0.00041	0.00300	0.00003	0.00326	0.00074	0	0.02647	0.00329	0.00326	0	0.01621	0.00595	0.00220	0.03196	0	0.02784
0	0	0	0	0.03375	0.00029	0	0.01313	0.00511	0.01635	0.00646	0	0.02293	0.00334	0.00321	0	0.03615	0.00706	0.00360	0.01240	0	0.03801
0	0	0	0	0.04250	0.00047	0	0.01106	0.00591	0.01517	0.01072	0	0.03170	0.00327	0.00327	0	0.04089	0.00701	0.00273	0.01495	0	0.04180
0	0	0	0	0.04474	0.00055	0.00350	0.00774	0.00661	0.00704	0.00695	0	0.03120	0.00335	0.00312	0	0.04304	0.00651	0.00223	0.01663	0	0.04453
0	0	0	0.61295	0.03626	0.00094	0	0.05226	0.00348	0.01123	0.00648	0	0.05498	0.00677	0.00650	0	0.03180	0.00831	0.00819	0.01384	0	0.08286
0	0	0	0.58229	0.05873	0.00162	0	0.03783	0.00342	0.00930	0.01009	0	0.06168	0.00725	0.00586	0	0.03135	0.00927	0.00646	0.05331	0	0.06736
0	0	0	0.59014	0.03533	0.00110	0.00042	0.02950	0.00278	0.00792	0.00975	0	0.05914	0.00703	0.00704	0	0.03531	0.01076	0.00674	0.05281	0	0.08076
0.00141	0	0.00017	0	0.06894	0.00012	0	0.00798	0.00405	0.01070	0.01642	0	0.04722	0.00773	0.00506	0	0.09239	0.00637	0.00424	0.04178	0	0.04470
0.00351	0	0.00047	0	0.06457	0.00034	0	0.16001	0.03284	0.01131	0.03024	0	0.04158	0.00813	0.00488	0	0.09732	0.00983	0.00409	0.04843	0	0.06577
0.00037	0	0.00049	0	0.06764	0.00019	0	0.15021	0.04365	0.00689	0.02235	0	0.04651	0.00942	0.00541	0	0.09642	0.00935	0.00390	0.04498	0	0.06749
0.00805	0	0.17266	0.00228	0.01704	0.01698	0	0.01613	0.00414	0.00609	0.02619	0	0.13663	0	0.00382	0	0.02093	0.00940	0.00262	0.04332	0	0.02984
0.00949	0	0.17475	0.00247	0.00825	0.01113	0	0.01061	0.00347	0.00710	0.02431	0	0.12741	0	0.00400	0	0.02293	0.00773	0.00197	0.05551	0	0.02228
0.00963	0	0.16237	0	0.01069	0.00078	0	0.01423	0.00021	0.00295	0.00476	0	0.13466	0.00067	0.00515	0	0.02719	0.00758	0.00307	0.05633	0	0.02706
0.00248	0	0.00866	0	0.05505	0.03164	0	0.00249	0.00026	0.00254	0.00484	0	0.14358	0.00115	0.00424	0	0.07304	0.00750	0.00225	0.02317	0	0.07088
0.00117	0	0.00621	0	0.04385	0.02417	0	0.00223	0.00026	0.00254	0.00484	0	0.11792	0.00135	0.00423	0	0.07794	0.00649	0.00113	0.02788	0	0.02355
0.00237	0	0.00780	0	0.04513	0.01551	0.00067	0.00022	0.00094	0.00144	0.00525	0	0.17117	0.00137	0.00505	0	0.09656	0.00824	0.00298	0.04679	0	0.03843
0.00041	0	0	0	0.19856	0.00032	0.00092	0.00418	0.00064	0.00785	0.06946	0	0.04406	0.00562	0.00474	0	0.09220	0.00988	0.00380	0.04123	0	0.07023
0.00051	0	0	0	0.17833	0.00052	0.00155	0.00688	0.00075	0.00907	0.07213	0	0.04059	0.01974	0.00503	0	0.10530	0.00975	0.00515	0.04327	0	0.08187
0	0	0	0	0.17161	0.00053	0	0.00684	0.00088	0.00677	0.03246	0	0.04424	0.05318	0.00566	0	0.10123	0.01010	0.00337	0.05323	0	0.07398
0.00349	0	0	0	0.08276	0.00013	0	0.00606	0.00155	0.02847	0.04553	0	0.04925	0.00645	0.00582	0	0.09228	0.01295	0.00531	0.04487	0	0.07840
0.00373	0	0	0	0.07259	0.00015	0	0.00607	0.00102	0.02684	0.03557	0	0.04642	0.00589	0.00589	0	0.09725	0.01386	0.00507	0.04963	0	0.06743
0	0	0	0	0.05855	0.00013	0	0.00607	0.00128	0.01592	0.00955	0	0.04457	0.05221	0.00644	0	0.10349	0.01060	0.00462	0.05919	0	0.10515
0.00008	0	0	0	0.14732	0.00034	0.00095	0.01001	0.00107	0.00680	0.04112	0	0.04642	0.00941	0.00667	0	0.14468	0.00969	0.00570	0.04078	0	0.06712
0.00003	0	0	0	0.13561	0.00015	0.00040	0.00415	0.00046	0.00477	0.04181	0	0.03911	0.01264	0.00683	0	0.15495	0.00863	0.00432	0.04208	0	0.06778
0.00004	0	0	0	0.12859	0.00032	0.01306	0.00429	0.00047	0.00367	0.03114	0	0.04186	0.03115	0.00840	0	0.16603	0.00989	0.00190	0.03771	0	0.08142
0.00050	0	0	0	0.13743	0.03171	0	0.00598	0.01164	0.04294	0.01815	0	0.07913	0.02148	0.00779	0	0.02960	0.01969	0.01398	0.09306	0	0.08244
0.00017	0	0	0	0.11392	0.01681	0	0.00154	0.01059	0.04586	0.07474	0	0.06530	0.00636	0.00759	0	0.03043	0.01707	0.01090	0.13575	0	0.18216
0.00022	0	0	0	0.08771	0.00586	0.01452	0.00305	0.00806	0.02747	0.01527	0	0.06788	0.00641	0.00741	0	0.03311	0.02133	0.00735	0.12765	0	0.14555
0	0	0	0	0.00031	0.01319	0	0.00215	0	0.00536	0.00659	0	0.02945	0	0.00139	0	0.01091	0.00619	0.00120	0.00911	0	0.01412
0	0	0	0	0.00028	0.01080	0	0.00181	0	0.00294	0.00688	0	0.03247	0	0.00137	0	0.01176	0.00774	0.00100	0.02034	0	0.01693
0	0	0	0	0.00375	0.00434	0	0.00263	0.00430	0.00415	0.01035	0	0.05529	0.01247	0.00237	0	0.01524	0.00775	0.00057	0.01995	0	0.02943
0.01986	0	0.00118	0.00037	0.09234	0.00246	0	0.02659	0.01739	0.00831	0.06569	0	0.06938	0.00323	0.00519	0	0.15318	0.00773	0.00341	0.03765	0	0.04531
0.02376	0	0.00023	0.00007	0.08934	0.00046	0	0.02145	0.01669	0.00634	0.04311	0	0.04433	0.01642	0.00552	0	0.16465	0.00773	0.00320	0.04477	0	0.04405
0.01683	0	0.00023	0.00007	0.09381	0.00156	0	0.01924	0.02838	0.00567	0.06478	0	0.06823	0.02591	0.00704	0	0.15618	0.00919	0.00273	0.04941	0	0.04868
0.00075	0	0	0	0.01841	0	0.01097	0.07634	0.00477	0.03119	0.03971	0	0.03838	0	0.00862	0	0.23570	0.01018	0.00789	0.03293	0.00006	0.08583
0.00063	0	0	0	0.03709	0	0.02202	0.10233	0.05131	0.02358	0.03522	0	0.03119	0	0.00753	0	0.21839	0.00996	0.00601	0.4478	0.00012	0.10548
0.00077	0	0	0	0.03881	0	0.00681	0.16992	0.09734	0.01177	0.03357	0	0.03518	0	0.00694	0	0.16476	0.00939	0.00405	0.05282	0.00012	0.09789
0.12590	0	0	0	0.07397	0	0.02210	0.04408	0.11684	0.01432	0.09966	0	0.06374	0	0.00397	0	0.26584	0.01189	0.00710	0.04234	0	0.08459
0.10931	0	0	0	0.08105	0	0.02407	0.04172	0.10457	0.01502	0.06513	0	0.05526	0	0.00392	0	0.17179	0.01320	0.00630	0.05033	0	0.08205
0.10638	0	0	0	0.06746	0	0.02645	0.04057	0.12868	0.01361	0.05311	0	0.05513	0	0.00852	0	0.30669	0.01382	0.00399	0.04223	0	0.08737
0.19500	0	0	0	0.15346	0	0.02414	0.04223	0.05835	0.01065	0.01324	0	0.03238	0	0.00727	0	0.31820	0.01801	0.00996	0.02557	0	0.06762
0.20859	0	0	0	0.11839	0	0.02342	0.04803	0.04011	0.00583	0.01385	0	0.02683	0.00397	0.00702	0	0.33318	0.02012	0.00735	0.02862	0	0.07181
0.17402	0	0	0	0.16385	0	0.02087	0.03920	0.05971	0.00717	0.01324	0	0.02641	0.00488	0.00809	0	0.34101	0.02300	0.00719	0.02624	0	0.06812
0.07297	0	0	0	0.05934	0	0.02759	0	0.15615	0.00995	0.00448	0	0.03706	0.00133	0.00406	0	0.15376	0.00708	0.00593	0.07506	0	0.04809
0.04978	0	0	0	0.04169	0	0.01959	0	0.12419	0.00584	0.00329	0	0.03241	0.00101	0.00382	0	0.14681	0.00859	0.00530	0.08219	0	0.03589
0.02313	0	0	0	0.09078	0	0.01759	0.03225	0.13960	0.00776	0.00668	0	0.03702	0.00088	0.00716	0	0.11903	0.00665	0.00216	0.07635	0	0.04691
0.93604	0	0	0	0.01114	0.00002	0	0	0	0.00181	0.00002	0	0.02346	0	0.00057	0	0.00441	0.00135	0.00184	0.00196	0	0.02736
0.92005	0	0	0	0.01246	0.00011	0	0	0	0.00172	0.00011	0	0.03023	0	0.00053	0	0.00434	0.00103	0.00121	0.00188	0	0.02512
0.90275	0	0	0	0.00823	0.00006	0	0	0	0.00153	0.00011	0	0.02170	0	0.00066	0	0.00433	0.00219	0.00202	0.02022	0	0.03748
0.59308	0	0	0	0.13614	0	0.00612	0.00766	0	0.00141	0	0	0.01077	0.01753	0.00360	0	0.13463	0.00349	0.00767	0.00567	0	0.04748
0.57897	0	0	0	0.15838	0	0.00484	0.00624	0	0.00186	0	0	0.01255	0.01342	0.00365	0	0.14322	0.00334	0.00656	0.01776	0	0.04422
0.53715	0	0	0	0.18324	0	0.00404	0.00895	0	0.00911	0	0	0.01315	0.01782	0.00469	0	0.16205	0.00468	0.01163	0.00469	0	0.04199
0	0	0	0.07302	0.03579	0.10931	0	0.00983	0.01462	0.13279	0.00812	0.22086	0.07184	0.10158	0.00521	0	0.03118	0.00173	0.01315	0.07886	0.03784	0.05320
0	0	0	0.04062	0.03669	0.09888	0	0.01308	0.01714	0.13477	0.09623	0.22121	0.06063	0.13276	0.00523	0	0.03339	0.00347	0.00805	0.08487	0.04303	0.05949
0	0	0	0.02869	0.03152	0.08659	0	0.01157	0.01240	0.17499	0.00508	0.18444	0.06132	0.12638	0.00552	0	0.03207	0.00359	0.00625	0.09993	0.03577	0.08386
0	0	0	0	0.01087	0.00316	0.00004	0.02184	0.01332	0.04211	0.00901	0.00167	0.05608	0.00288	0.00856	0	0.17709	0.06394	0.03778	0.03428	0.04257	0.04342
0	0	0	0	0.00874	0.00265	0.00007	0.02934	0.01108	0.03580	0.04262	0.00201	0.04945	0.00221	0.00783	0	0.18269	0.05689	0.04838	0.03166	0.03348	0.04535
0	0	0	0	0.00413	0.00316	0.00008	0.03503	0.01332	0.02784	0.13468	0.00337	0.04009	0.00181	0.00581	0	0.22665	0.05551	0.07615	0.02888	0.02369	0.41986
0	0	0.00003	0.00486	0.13474	0.07707	0.00596	0.22074	0.02505	0.09023	0.26320	0.05016	0.05434	0.06871	0.00894	0	0.05511	0.02087	0.00950	0.03788	0.01066	0.06917
0	0	0.00001	0.00295	0.11568	0.07034	0.00512	0.23892	0.02630	0.07053	0.03995	0.07956	0.04723	0.03387	0.00908	0	0.06094	0.01761	0.00702	0.04464	0.01329	0.07236
0	0	0.00001	0.00204	0.11252	0.06575	0.00556	0.21329	0.02466	0.07330	0.03684	0.09688	0.04768	0.08106	0.00914	0	0.06721	0.01948	0.00621	0.04241	0.01464	0.07700
0	0	0	0	0	0.00371	0.03252	0	0	0.00755	0.00055	0	0.26943	0.04953	0.10670	0	0.15521	0.00925	0.13208	0.02130	0.00007	0.18477
0	0	0	0	0	0.00211	0.03416	0	0	0.00645	0.00127	0	0.21472	0.04353	0.10907	0	0.17573	0.00860	0.14094	0.05325	0.00007	0.15979
0	0	0	0	0	0.00221	0.03938	0	0	0.00652	0.00223	0	0.19709	0.10958	0.10906	0	0.21295	0.01684	0.10405	0.04382	0.00007	0.13618
0.00053	0	0.00118	0.00155	0.00412	0.00190	0.00782	0.00224	0.12288	0.00305	0.06128	0.23578	0.02560	0.03464	0.00893	0	0.01426	0.14011	0.08020	0.00074	0.17261	
0.00055	0	0.00038	0.00136	0.00336	0.00195	0.00601	0.00220	0.10703	0.00300	0.07103	0.25193	0.02253	0.03475	0	0	0.10151	0.01380	0.10181	0.06936	0.00064	0.20635
0.00021	0	0.00100	0	0.00106	0.00243	0.00148	0.00427	0.00173	0.09235	0.00239	0.07156	0.27097	0.03250	0.03584	0	0.12531	0.01378	0.07301	0.03370	0.00057	0.19798
0	0	0	0	0	0	0.00251	0	0	0.08576	0	0	0.02678	0	0.02476	0	0.09826	0.09620	0.34831	0.01813	0	0.29928
0	0	0	0	0	0	0.00233	0	0	0.24028	0	0	0.05093	0	0.01950	0	0.08290	0.11139	0.27533	0.02725	0	0.19277
0	0	0	0	0	0	0.00289	0.01427	0	0.28029	0.00161	0	0.05534	0	0.01971	0	0.08853	0.07593	0.23586	0.03228	0	0.19326
0.00015	0	0	0.03880	0.00747	0.00553	0.01922	0.00110	0.04174	0.00298	0	0.16630	0.00491	0.06582	0	0	0.28427	0.02136	0.00643	0.04869	0	0.27836
0.00009	0	0	0.03395	0.00475	0.00572	0.01827	0.00118	0.03362	0.00326	0	0.16581	0.00755	0.06469	0	0	0.28702	0.02019	0.00600	0.04626	0	0.28955
0	0	0	0.03457	0.00703	0.00634	0.01856	0.00081	0.03778	0.00536	0	0.15113	0.00574	0.07113	0	0	0.29620	0.01943	0.00371	0.04639	0	0.28264
0.00012	0	0	0.04487	0.02981	0.00303	0.00775	0.00056	0.02181	0.00274	0	0.07787	0.00361	0.07422	0	0	0.13584	0.05056	0.02034	0.02168	0	0.35288
0	0	0	0.04508	0.02161	0.00305	0.00812	0.00057	0.02081	0.00166	0	0.06791	0.00228	0.06549	0	0	0.13879	0.05597	0.01513	0.02168	0	0.36830
0	0	0	0.05063	0.00508	0.00355	0.00584	0.00066	0.02587	0.00380	0	0.07041	0.00531	0.06934	0	0	0.17556	0.05682	0.01670	0.01887	0	0.39576
0	0	0	0	0	0.00629	0	0	0.00664	0	0	0.05002	0	0.04927	0	0	0.14442	0.01562	0.37211	0.00280	0	0.25283
0	0	0	0	0	0.00579	0	0	0.00675	0	0	0.04926	0	0.05312	0	0	0.14656	0.01542	0.34624	0.00282	0	0.35501
0	0	0	0	0	0.00622	0	0	0.00752	0	0	0.04702	0	0.05876	0	0	0.18119	0.03329	0.30112	0.00333	0	0.37152
0.00053	0	0.00008	0.00460	0.02038	0.02236	0.00238	0.00343	0.00261	0.01613	0.03300	0	0.05260	0.02574	0.04606	0.00100	0.17439	0.01526	0.01002	0.04286	0.00003	0.24067
0.00055	0	0.00010	0.00378	0.01893	0.02364	0.00267	0.00395	0.00280	0.01805	0.03555	0	0.04971	0.02752	0.04349	0.00100	0.19499	0.01844	0.01844	0.04191	0.00003	0.26346
0.00021	0	0.00010	0.00332	0.01914	0.02011	0.00256	0.00301	0.00275	0.01893	0.02573	0	0.04487	0.02233	0.04662	0.00077	0.22081	0.02130	0.00544	0.04023	0.00003	0.28730
0	0	0	0	0	0	0	0	0	0	0	0	1.00000	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	1.00000	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	1.00000	0	0	0	0	0	0	0	0	0
0.00011	0	0	0	0.13465	0.00410	0	0.27789	0.12362	0.02807	0.01655	0.00271	0.05510	0.09123	0.00185	0.00154	0.07750	0.00083	0.00096	0.11628	0.02828	0.05578
0.00013	0	0	0	0.11391	0.00689	0	0.26742	0.13094	0.02826	0.01248	0.00355	0.04436	0.10344	0.00191	0.00066	0.09411	0.00086	0.00086	0.10091	0.03281	0.05114
0.00010	0	0	0	0.11149	0.00729	0	0.26058	0.11333	0.01951	0.01190	0.00288	0.05466	0.10352	0.00344	0.00082	0.11277	0.00083	0.00084	0.10511	0.02791	0.06101
0.00033	0	0	0	0.04887	0.00841	0.09246	0.07897	0.00538	0.00177	0.06631	0.05479	0.03484	0.12297	0	0.00039	0.13406	0	0	0.17255	0.11423	0
0.00040	0	0	0	0.05186	0.00985	0.06797	0.07713	0.00670	0.00108	0.06017	0.07195	0.02633	0.12714	0	0.00027	0.15930	0	0	0.15785	0.12600	0
0.00030	0	0	0	0.05032	0.00894	0.05915	0.06687	0.00558	0.00079	0.03568	0.06501	0.03089	0.12921	0	0.00024	0.16888	0	0	0.16775	0.13658	0
0	0	0	0	0.00358	0	0.30730	0	0.00097	0.02001	0.00100	0.00788	0.15391	0.02623	0.06691	0	0.35905	0	0	0.03838	0	0
0.01457	0	0	0	0.00076	0	0.28128	0	0.00099	0.01260	0.00111	0.01132	0.16942	0.02619	0.08522	0	0.35539	0	0	0.03904	0	0
0.01838	0	0	0	0.00078	0	0.25478	0	0.00096	0.01347	0.00092	0.01096	0.18265	0.02795	0.09299	0	0.35964	0	0	0.03653	0	0

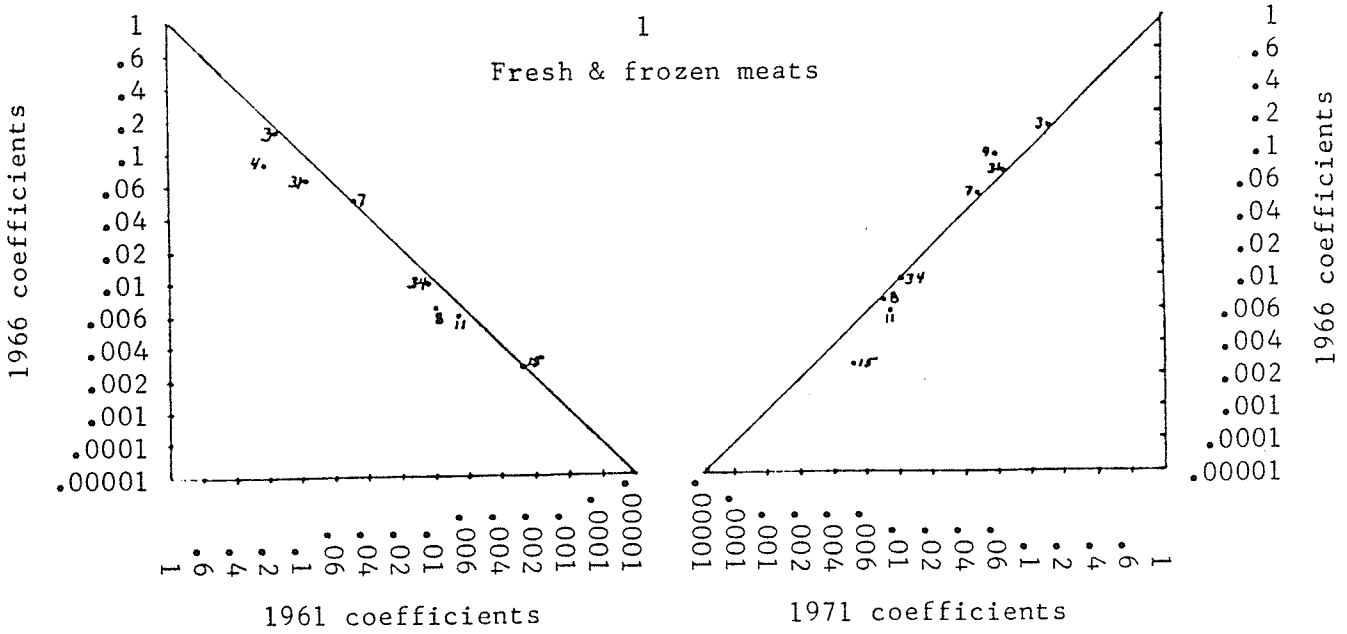
Table 1

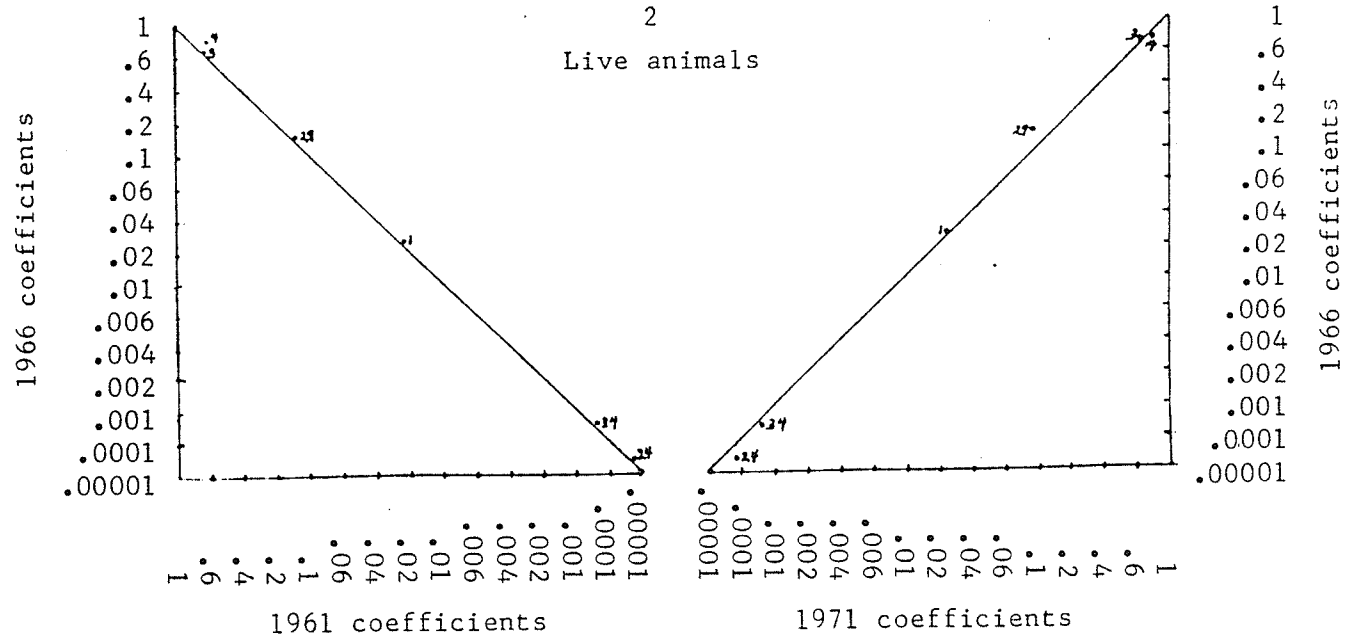
Material Input-Output Coefficients for 1961, 1966 and 1971

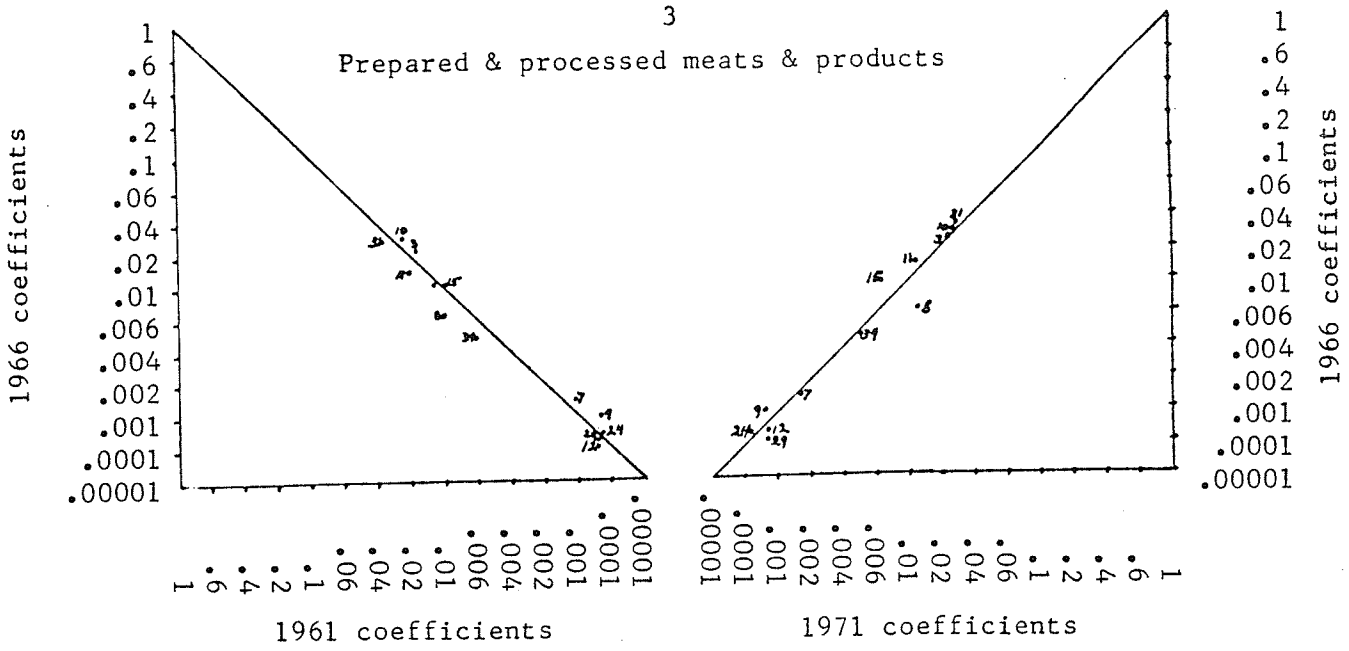
Industry	Date	1 Fresh & frozen meat	2 Live animals	3 Prepared & processed meats & products	4 Dairy products	5 Rice unmilled & products	6 Fresh fruits & veg.	7 Grains including wheat & flour	8 Dried & processed fruits & veg. & products	9 Miscel. foods	10 Confectioneries	11 Sugar maple sugar & refinery products	12 Oilseeds & products	13 Eggs	14 Alcohol ingredients & products	15 Tobacco & products	16 Feeds of animal & veg. origin	17 Fishing trapping porching & products	18 Forestry products	19 Textile & clothing
1 Agriculture	1961	0	0.02414	0	0	0	0	0.02761	0.00591	0	0	0.00055	0.00139	0	0	0	0.20938	0	0.01316	0.01186
	1966	0	0.02659	0	0	0	0	0.02142	0.00478	0	0	0.00033	0.00103	0	0	0	0.26195	0	0.00927	0.00924
	1971	0	0.02490	0	0	0	0.00564	0.01640	0.00552	0	0	0.00025	0.00126	0	0	0	0.22608	0	0.00887	0.00674
2 Forestry		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.01078	0	0.23313	0.00502
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00829	0	0.20243	0.00502
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00299	0	0.16098	0.00490
3 Slaughtering & meat processors		0.17729	0.65838	0.01757	0.00013	0	0.00091	0.00058	0.01799	0.00681	0	0.00055	0	0	0.00008	0	0.00321	0.00006	0.01969	0.00135
		0.16989	0.66136	0.02177	0.00225	0	0.00008	0.00072	0.01283	0.00490	0	0.00033	0	0	0.00007	0	0.01327	0.00158	0.01633	0.00112
		0.16341	0.65717	0.02156	0.00230	0	0.00077	0.00046	0.01379	0.00467	0	0.00035	0	0	0.00007	0	0.01429	0	0.01350	0.00037
4 Poultry processors		0.22667	0.61306	0	0.00010	0	0.00009	0.00002	0	0.00192	0	0	0	0	0	0	0	0	0.03705	0.00038
		0.08668	0.75416	0	0.00128	0	0.00013	0.00002	0.00001	0.00233	0	0	0	0	0	0	0	0	0.02734	0.00055
		0.05755	0.76965	0	0.00081	0	0.00013	0	0	0.00273	0	0	0	0	0	0	0	0	0.03399	0.00057
5 Dairy factories		0	0	0	0.77844	0	0.00098	0.00015	0.00390	0.00783	0.00069	0.00575	0	0.00023	0	0	0	0	0.03375	0.00029
		0	0	0	0.74207	0	0.00133	0.00040	0.00505	0.00982	0.00096	0.00699	0	0	0	0	0	0	0.04250	0.00047
		0	0	0	0.73040	0	0.00076	0.00054	0.00793	0.00765	0.00229	0.00964	0.00331	0	0	0	0	0	0.04676	0.00055
6 Fish products industry		0	0	0	0	0	0.00450	0	0.00029	0.06445	0	0	0	0	0	0	0	0.61295	0.03626	0.00094
		0	0	0	0	0	0.00813	0	0.00054	0.05146	0	0	0	0	0	0	0	0.58229	0.05873	0.00162
		0	0	0	0	0	0.00725	0	0.00055	0.03967	0	0	0	0	0	0	0	0.59014	0.03533	0.00110
7 Fruit & veg. processors		0.05247	0	0.00117	0.00712	0	0.21537	0.00216	0.07518	0.01456	0.00045	0.04471	0.00269	0.00085	0.00141	0	0.00017	0	0.06894	0.00012
		0.05394	0	0.00160	0.01342	0	0.20830	0.00267	0.08822	0.00474	0.00120	0.03305	0.00721	0.00232	0.00351	0	0.00047	0	0.06457	0.00034
		0.04938	0	0.00162	0.01482	0	0.20243	0.00735	0.08387	0.01699	0.00011	0.03622	0.00960	0.00088	0.00037	0	0.00049	0	0.06164	0.00019
8 Feed manufacturers		0.01045	0	0.01052	0.00571	0	0.00008	0.28466	0.00207	0.04579	0	0.01499	0.00173	0	0.00805	0	0.17266	0.00228	0.01704	0.01698
		0.00742	0	0.00723	0.01044	0.00001	0.00002	0.29521	0.00288	0.05818	0	0.01609	0.00410	0	0.00949	0	0.17475	0.00247	0.00825	0.01113
		0.00786	0	0.01245	0.01268	0	0.00117	0.25787	0.00220	0.06815	0	0.01274	0.00010	0	0.00963	0	0.16237	0	0.01069	0.00078
9 Flour & breakfast cereal ind.		0	0	0.00045	0.00030	0.00812	0.00008	0.58867	0.00027	0.00415	0.00029	0.00797	0.00141	0	0.00248	0	0.00866	0	0.05505	0.03164
		0	0	0.00104	0.00073	0.00747	0.00008	0.62562	0.00025	0.00341	0.00027	0.00698	0.00225	0	0.00117	0	0.00621	0	0.04585	0.02417
		0	0	0.00067	0.00113	0.00791	0.00009	0.52302	0.00032	0.00279	0.00022	0.00867	0.00326	0	0.00037	0	0.00780	0	0.04513	0.01551
10 Biscuit manufacturers		0	0	0.02557	0.01713	0	0.00144	0.12762	0.01648	0.04647	0.04839	0.09389	0.06879	0.00006	0.00041	0	0	0	0.19250	0.00032
		0	0	0.02930	0.01873	0	0.00101	0.13471	0.01845	0.03218	0.03160	0.07701	0.07634	0.00003	0.00051	0	0	0	0.17833	0.00052
		0	0	0.02647	0.01252	0	0.00056	0.12933	0.01939	0.00175	0.04619	0.11292	0.07034	0.00002	0	0	0	0	0.17161	0.00053
11 Bakeries		0.00686	0	0.02136	0.02250	0	0.00111	0.26684	0.04732	0.06061	0.00655	0.06788	0.03895	0.00588	0.00349	0	0	0	0.08276	0.00013
		0.00589	0	0.01652	0.02403	0	0.00155	0.26604	0.04595	0.06407	0.00914	0.03809	0.03438	0.00256	0.00373	0	0	0	0.07259	0.00015
		0.00878	0	0.01227	0.02852	0	0.00215	0.26292	0.05175	0.05192	0.00956	0.06697	0.03425	0.00242	0	0	0	0	0.05855	0.00013
12 Confectionery manuf.		0	0	0.00036	0.04621	0	0.00028	0.00826	0.04874	0.03618	0.13094	0.14226	0.04799	0.00009	0.00008	0	0	0	0.14732	0.00034
		0	0	0.00015	0.06957	0	0.00011	0.00761	0.04685	0.02756	0.11501	0.16432	0.04219	0.00009	0.00003	0	0	0	0.13561	0.00015
		0	0	0.00016	0.04739	0	0.00014	0.00786	0.05179	0.02540	0.11057	0.14073	0.05090	0.00003	0.00004	0	0	0	0.12859	0.00032
13 Sugar refineries		0	0	0	0	0	0.41974	0.00495	0	0	0	0	0	0	0.00050	0	0	0	0.13743	0.03171
		0	0	0	0	0	0.33077	0.00591	0	0	0	0	0	0	0.00017	0	0	0	0.11392	0.01681
		0	0	0	0	0	0.28322	0.00162	0	0.00216	0	0.13363	0	0	0.00022	0	0	0	0.08771	0.00586
14 Vegetable oil mills		0	0	0	0	0	0	0	0.00135	0.00050	0	0	0.89807	0	0	0	0	0	0.00031	0.01319
		0	0	0	0	0	0	0	0.03204	0.00043	0	0	0.85121	0	0	0	0	0	0.00028	0.01080
		0	0	0	0	0	0	0	0.00632	0.00042	0	0	0.82067	0	0	0	0	0	0.00375	0.00434
15 Miscell. food industry		0.00273	0	0.01042	0.01333	0.01861	0.01830	0.12756	0.02064	0.14324	0.00499	0.00371	0.02375	0.00566	0.01986	0	0.00118	0.00037	0.09274	0.00246
		0.00278	0	0.01123	0.01297	0.01942	0.01876	0.13615	0.03968	0.12620	0.00513	0.03325	0.02426	0.00510	0.02376	0	0.00023	0.00007	0.08934	0.00046
		0.00524	0	0.00682	0.00992	0.01050	0.02508	0.11855	0.05119	0.10191	0.00355	0.04184	0.02267	0.00478	0.01683	0	0.00023	0.00007	0.09381	0.00156
16 Soft drinks manuf.		0	0	0	0	0	0	0	0.00031	0.23468	0	0.16780	0	0	0.00075	0	0	0	0.01841	0
		0	0	0	0	0	0	0	0.00062	0.20077	0	0.10395	0	0	0.00063	0	0	0	0.03709	0
		0	0	0	0	0	0	0	0.00070	0.14571	0	0.12744	0	0	0.00077	0	0	0	0.03581	0
17 Distillers		0	0	0	0	0	0	0.09813	0.00301	0.00204	0	0.01049	0	0	0.12590	0	0	0	0.07397	0
		0	0	0	0	0	0	0.10560	0.00321	0.00170	0	0.00912	0	0	0.10931	0	0	0	0.08105	0
		0	0	0	0	0	0	0.09134	0.00245	0.00130	0	0.00580	0	0	0.10638	0	0	0	0.06744	0
18 Breweries		0	0	0	0	0	0	0.02164	0	0.00034	0	0.00085	0	0	0.19500	0	0	0	0.15346	0
		0	0	0	0	0	0	0.01884	0	0.00032	0	0.00071	0	0	0.20859	0	0	0	0.13839	0
		0	0	0	0	0	0	0.01673	0	0.00004	0	0.00021	0	0	0.17402	0	0	0	0.16385	0
19 Wineries		0	0	0	0	0	0.29367	0	0.02478	0.00125	0	0.01843	0	0	0.07297	0	0	0	0.05934	0
		0	0	0	0	0	0.37627	0	0.01342	0.00060	0	0.02912	0	0	0.04978	0	0	0	0.04169	0
		0	0	0	0	0	0.32495	0	0.01585	0.00051	0	0.04927	0	0	0.02313	0	0	0	0.09078	0
20 Leaf tobacco processing		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.92604	0	0	0.01114	0.00002
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.93005	0	0	0.01246	0.00011
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.90275	0	0	0.00673	0.00006
21 Tobacco products manuf.		0	0	0	0	0	0	0	0	0.00146	0	0.00347	0	0	0	0.59308	0	0	0.13614	0
		0	0	0	0	0	0	0	0	0.00118	0	0.00380	0	0	0	0.57897	0	0	0.15839	0
		0	0	0	0	0	0	0	0	0.00113	0	0.00357	0	0	0	0.53715	0	0	0.18324	0
22 Fishing, hunting & trapping		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.07302	0.03579	0.10931
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04062	0.03669	0.09888
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.02869	0.03152	0.08659
23 Mines, quarries & oil wells		0	0	0	0	0	0	0.00033	0	0	0	0	0	0	0	0	0	0	0.01087	0.00316
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00874	0.00265
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00413	0.00316
24 Manuf. except food		0	0.00004	0.00035	0.00007	0	0	0.00007	0.00201	0.00074	0	0.00006	0	0	0.00026	0	0.00003	0.00486	0.13474	0.07707
		0	0.00004	0.00038	0.00006	0	0	0.00005	0.00120	0.00066	0	0.00005	0	0	0.00023	0	0.00001	0.00295	0.11368	0.07034
		0	0.00008	0.00023	0.00006	0	0	0.00006	0.00075	0.00057	0.00010	0.00009	0	0	0.00030	0	0.00001	0.00204	0.11252	0.06575
25 Communications		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00371
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00211
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00221
26 Transportation & storage		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00118	0	0.00155	0.00412
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.00038	0	0.00136	0.00338
												0	0	0	0	0	0.00100	0	0.00106	0.00243
27 Elect. Power, gas & other utilities		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28 Wholesale trade		0	0	0	0.00057	0	0.00042	0.00110	0	0.00036	0	0.00039	0.00019	0	0	0	0.00015	0	0.03600	0.00747
		0	0	0	0.00071	0	0.00051	0.00213	0	0.00055	0	0.00041	0.00015	0	0	0	0.00009	0	0.03395	0.00475
		0	0	0	0.00001	0	0.00039	0.00317	0	0.00011	0	0.00023	0.00014	0	0	0.00012	0	0	0.03957	0.00703
29 Retail trade		0	0.15007	0.00033	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04482	0.02981
		0	0.15938	0.00016	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.04508	0.02161
		0	0.09111	0.00067	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.05063	0.00508
30 Finance ins. & real estate		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
31 Community business, pers. service		0.09090	0	0.03880	0.03337	0	0.02306	0.00204	0.01755	0.06520	0.00030	0.00352	0.00439	0.00609	0.00053	0	0.00008	0.00460	0.02038	0.02236
		0.07382	0	0.03193	0.02756	0	0.01945	0.00169	0.01455	0.05941	0.00024	0.00287	0.00369	0.00504	0.00055	0	0.00010	0.00378	0.01893	0.02364
		0.06645	0	0.02823	0.02399	0	0.01681	0.00139	0.01248	0.05239	0.00017	0.00251	0.00303	0.00460	0.00021	0	0.00010	0.00332	0.01914	0.02011
32 Transport margins		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33 Construction		0	0	0	0	0	0	0	0.00008	0	0	0	0	0	0.00011	0	0	0	0.11465	0.00410
		0	0	0	0	0	0	0	0.00009	0	0	0	0	0	0.00013	0	0	0	0.11391	0.00689
		0	0	0	0	0	0	0	0.00009	0	0	0	0	0	0.00010	0	0	0	0.11149	0.00729
34 Operation, office, lab & food		0.01190	0.00038	0.00647	0.01119	0	0.00591	0.00089	0.00406	0.01717	0.00011	0.00177	0.00103	0.00267	0.00003	0	0	0.00038	0.04887	0.00841
		0.01088	0.00046	0.00546	0.01033	0	0.00497	0.00076	0.00334	0.01515	0.00010	0.00147	0.00087	0.00225	0.00040	0	0	0.00031	0.05184	0.00985
		0.01104	0.00055	0.00493	0.01015	0	0.00462	0.00068	0.00300	0.01429	0.00007	0.00140	0.00082	0.00216	0.00003	0	0	0.00030	0.05032	0.00894
35 Travel Advert. & promotion		0	0	0	0	0	0	0	0	0	0	0	0	0	0.01477	0	0	0	0.00058	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0.01666	0	0	0	0.00076	0
		0	0	0	0	0	0	0	0	0	0	0	0	0	0.01636	0	0	0	0.00078	0

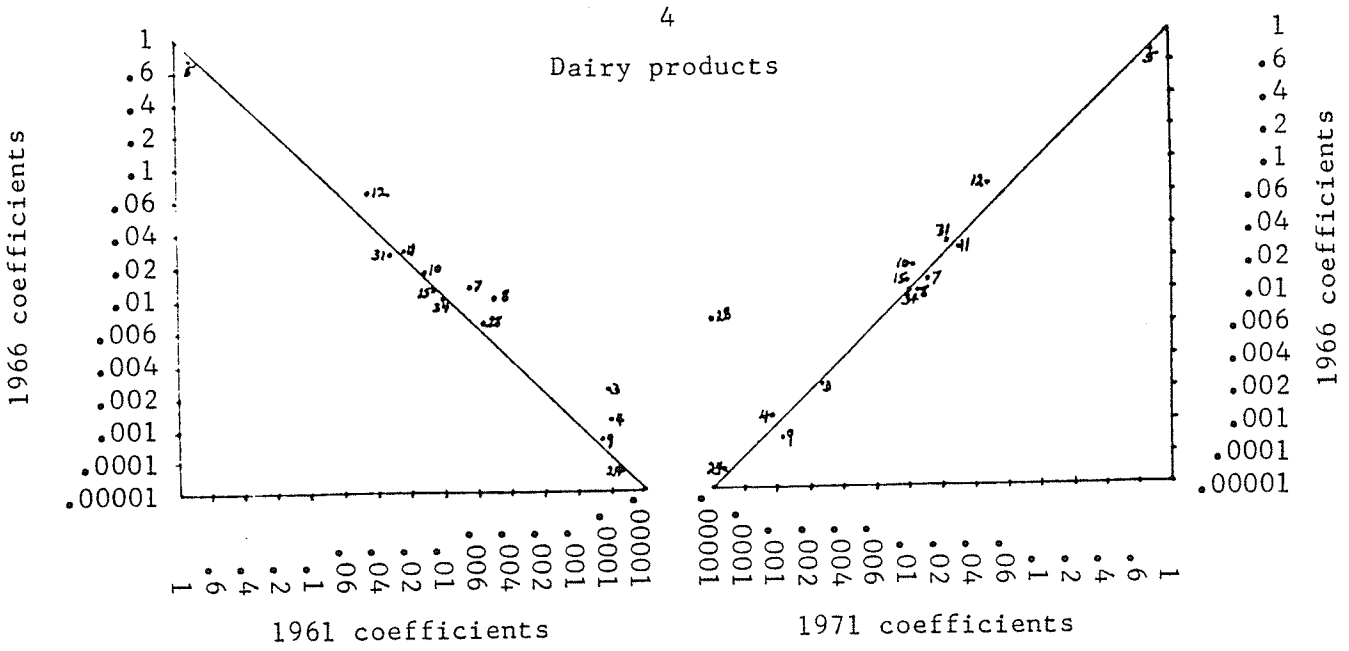
A P P E N D I X B

Diagrams showing changes in ratios of aggregated commodity inputs to the 35 industries, 1961 to 1966 and 1966 to 1971.



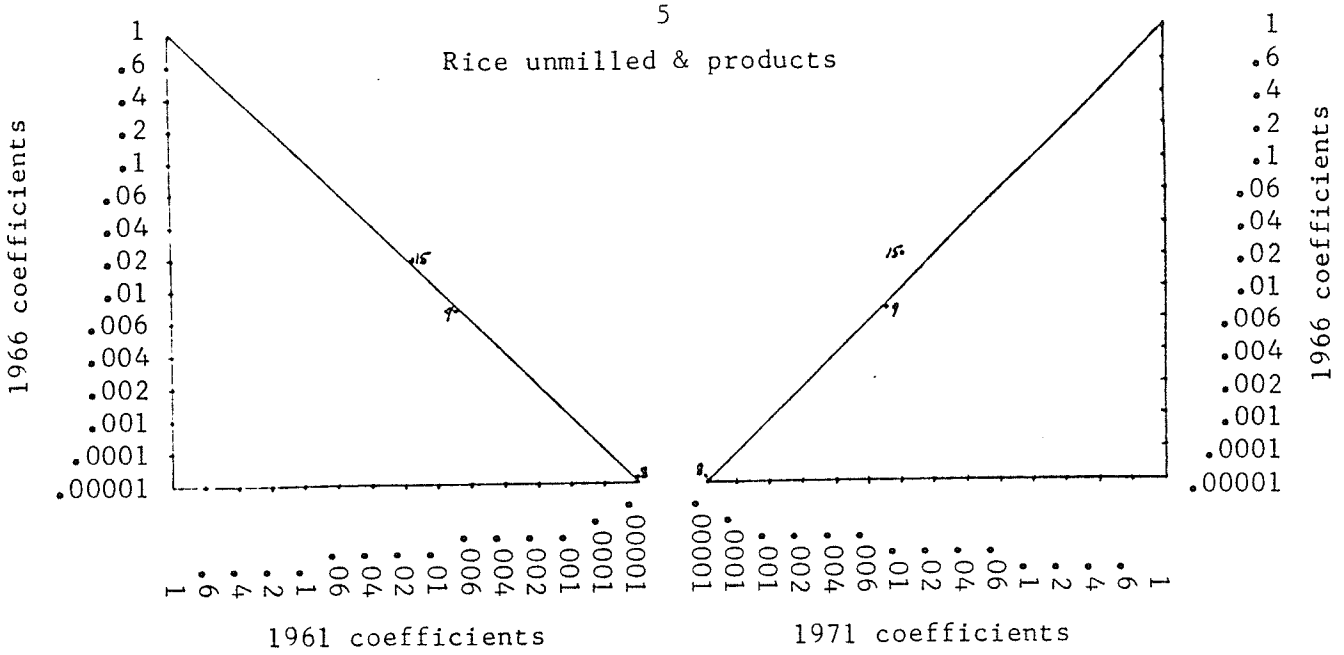



3
Prepared & processed meats & products
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients


4
Dairy products
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients

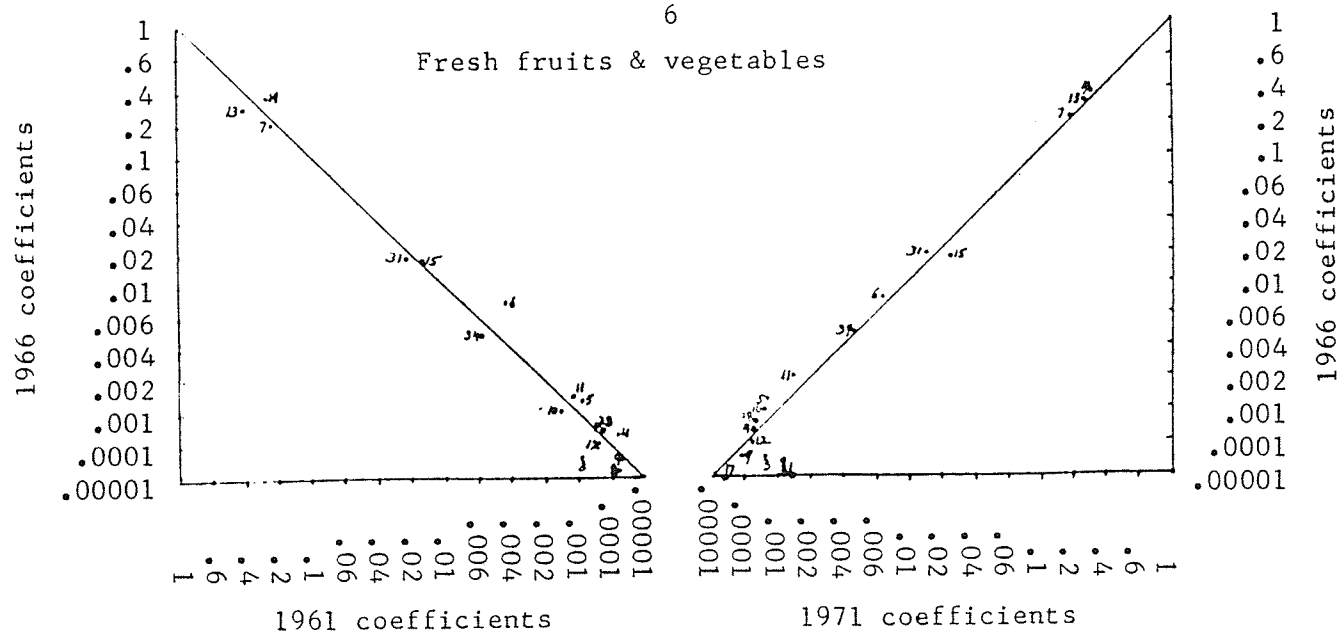
5

Rice unmilled & products



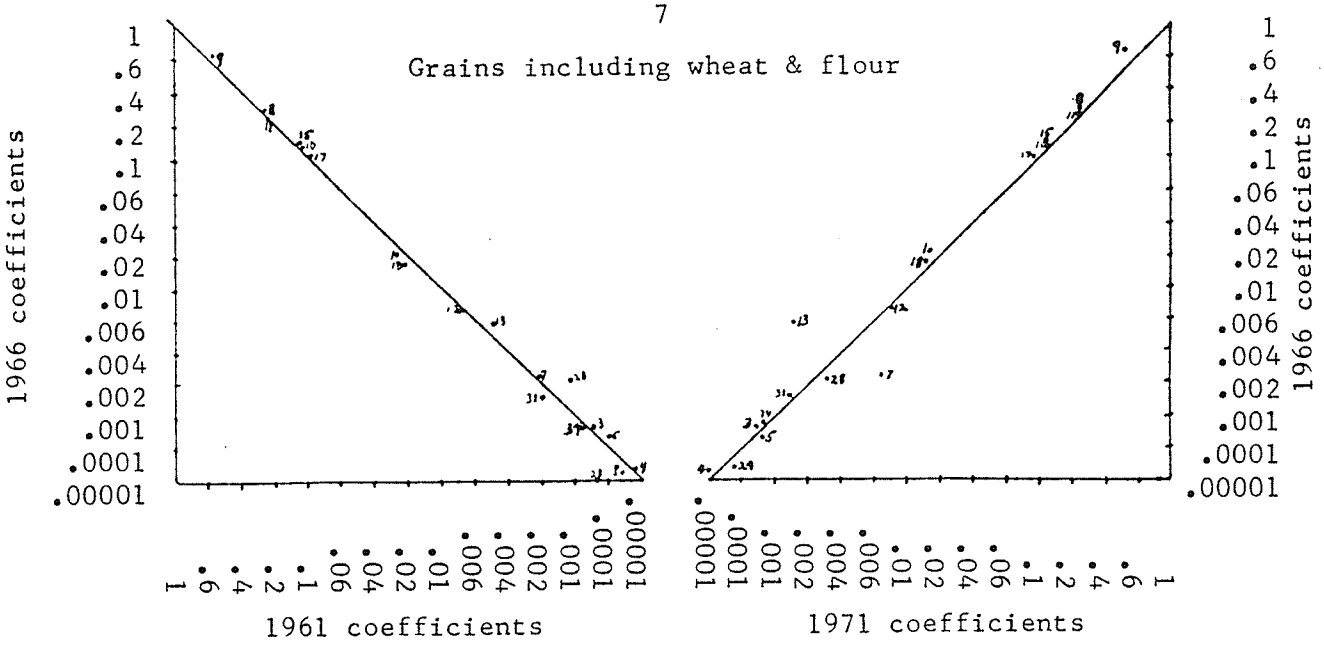
6

Fresh fruits & vegetables



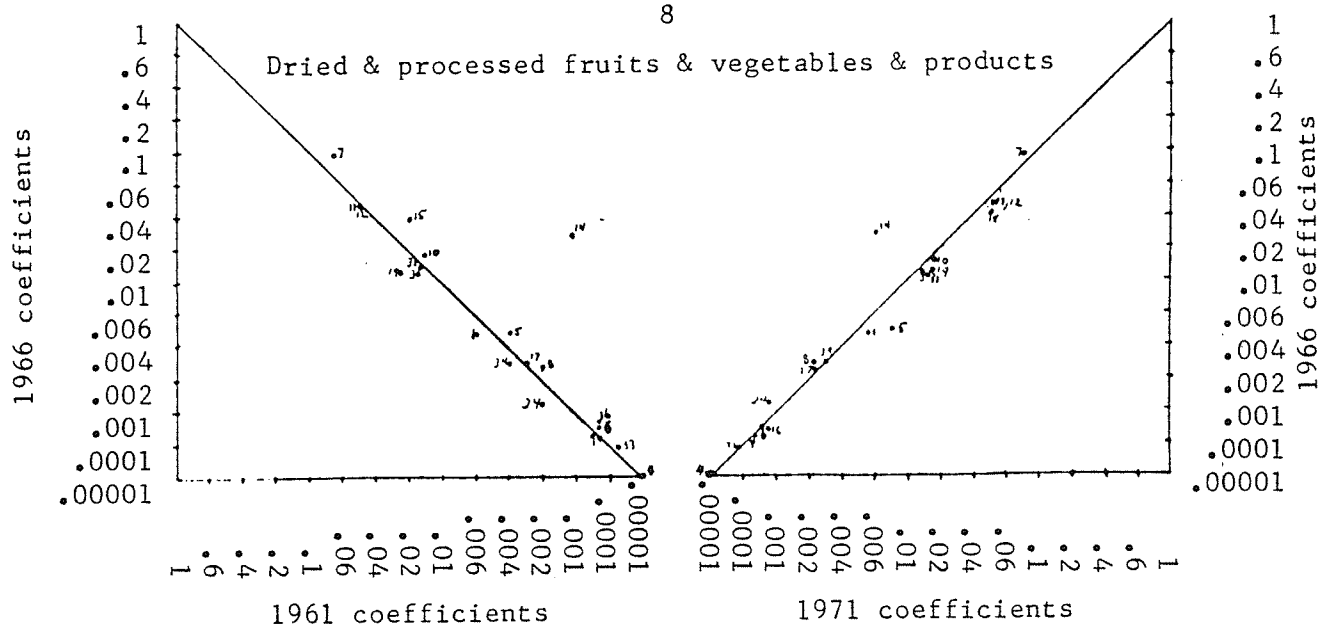
7

Grains including wheat & flour



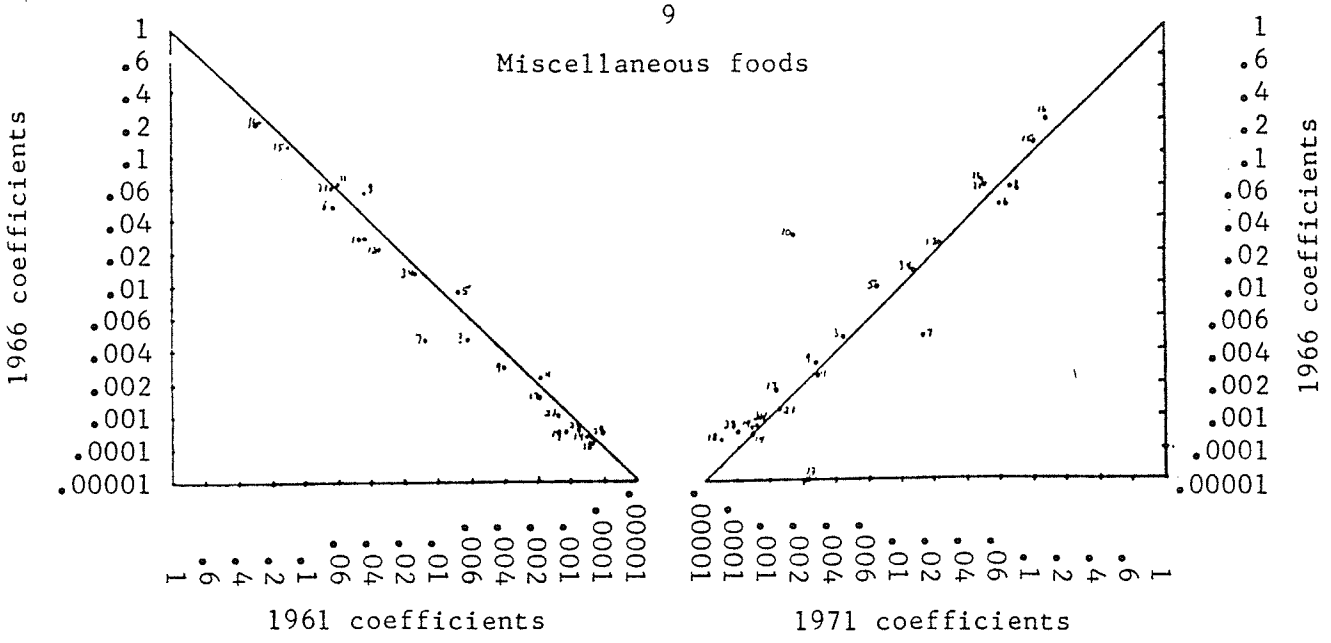
8

Dried & processed fruits & vegetables & products



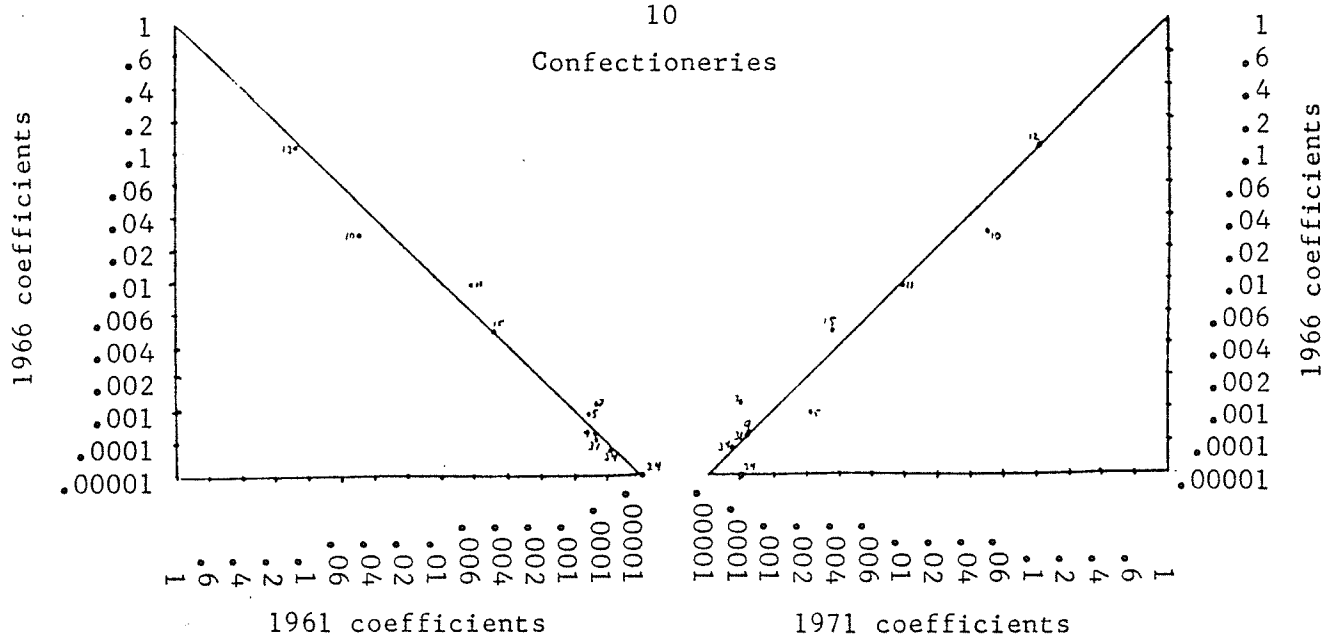
9

Miscellaneous foods



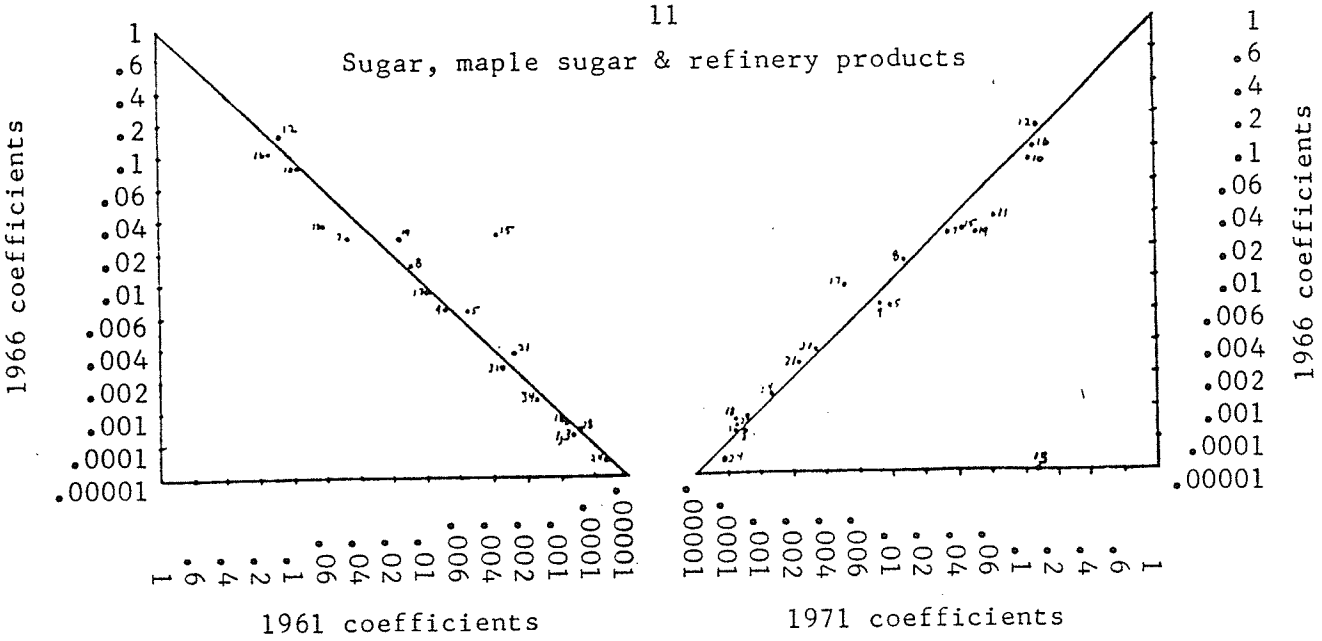
10

Confectioneries



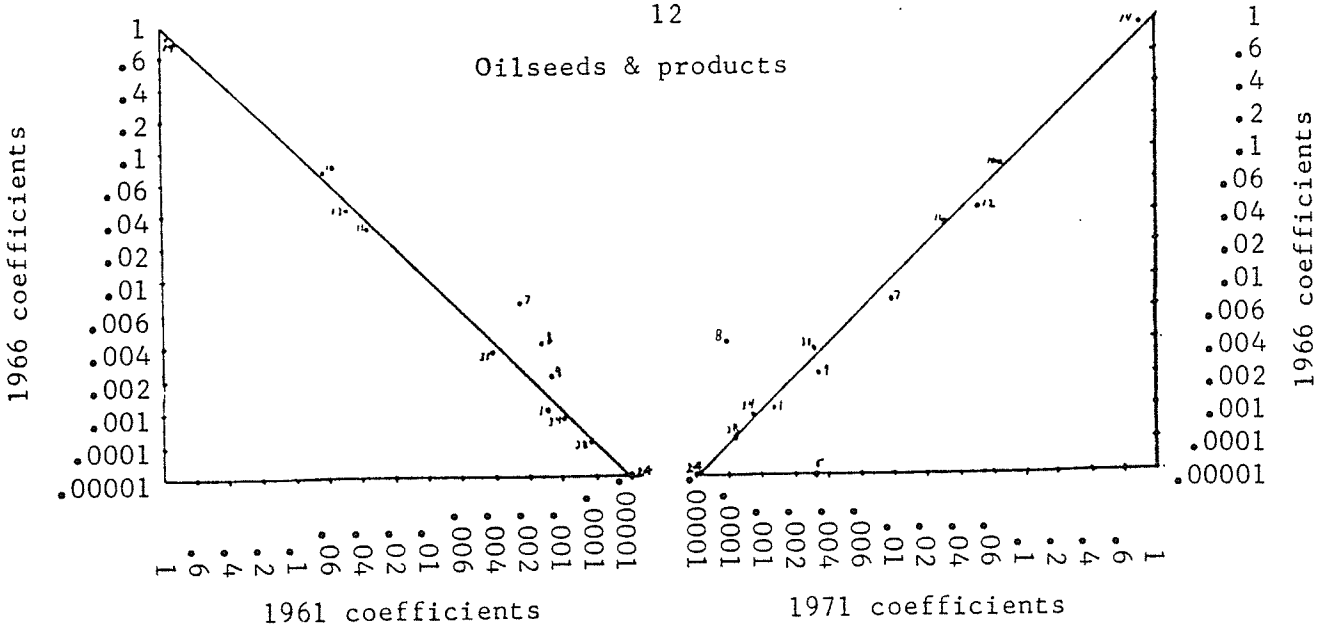
11

Sugar, maple sugar & refinery products



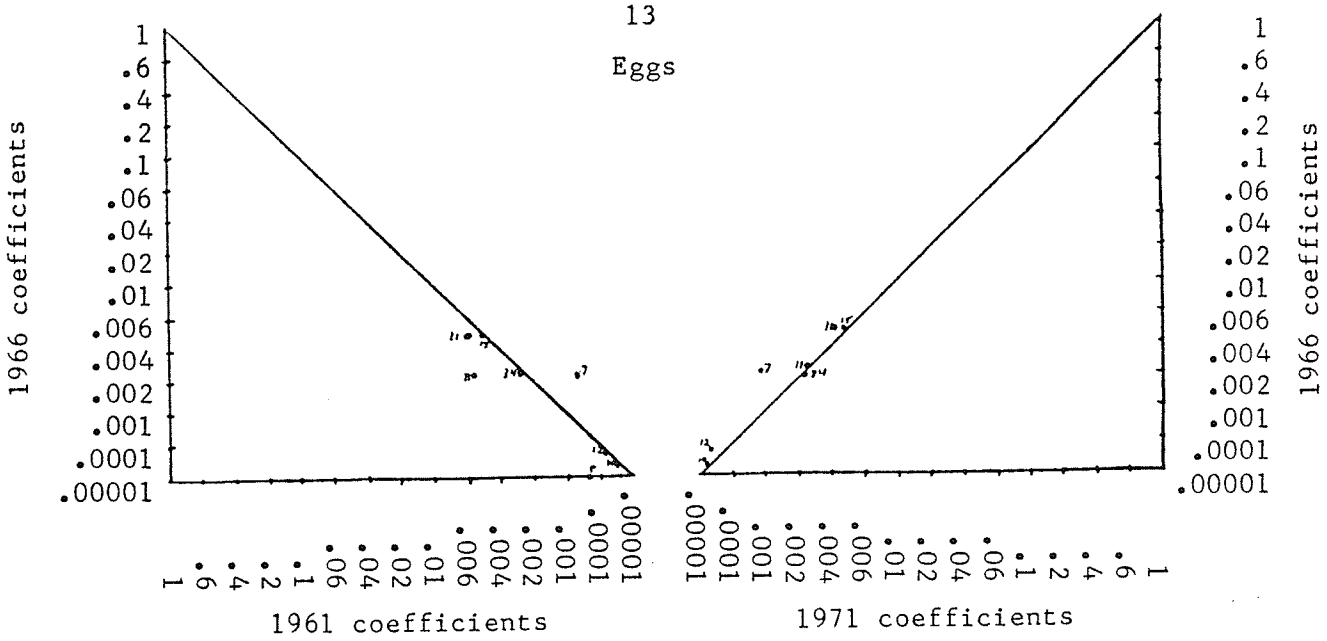
12

Oilseeds & products



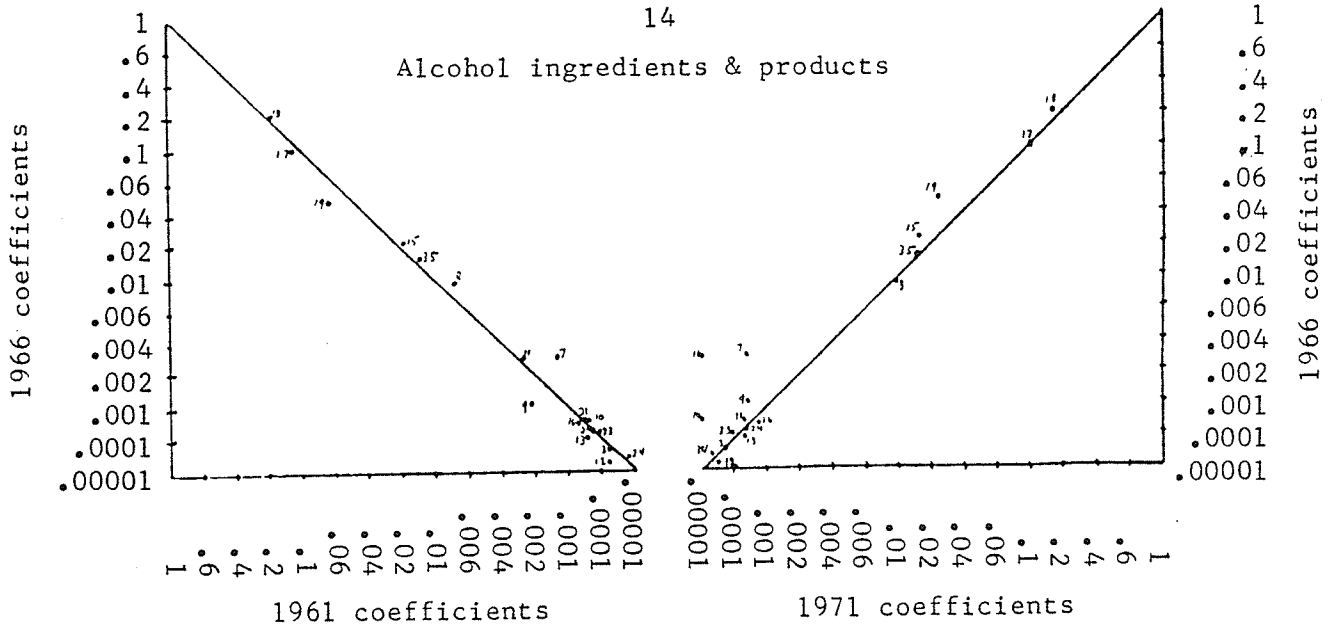
13

Eggs



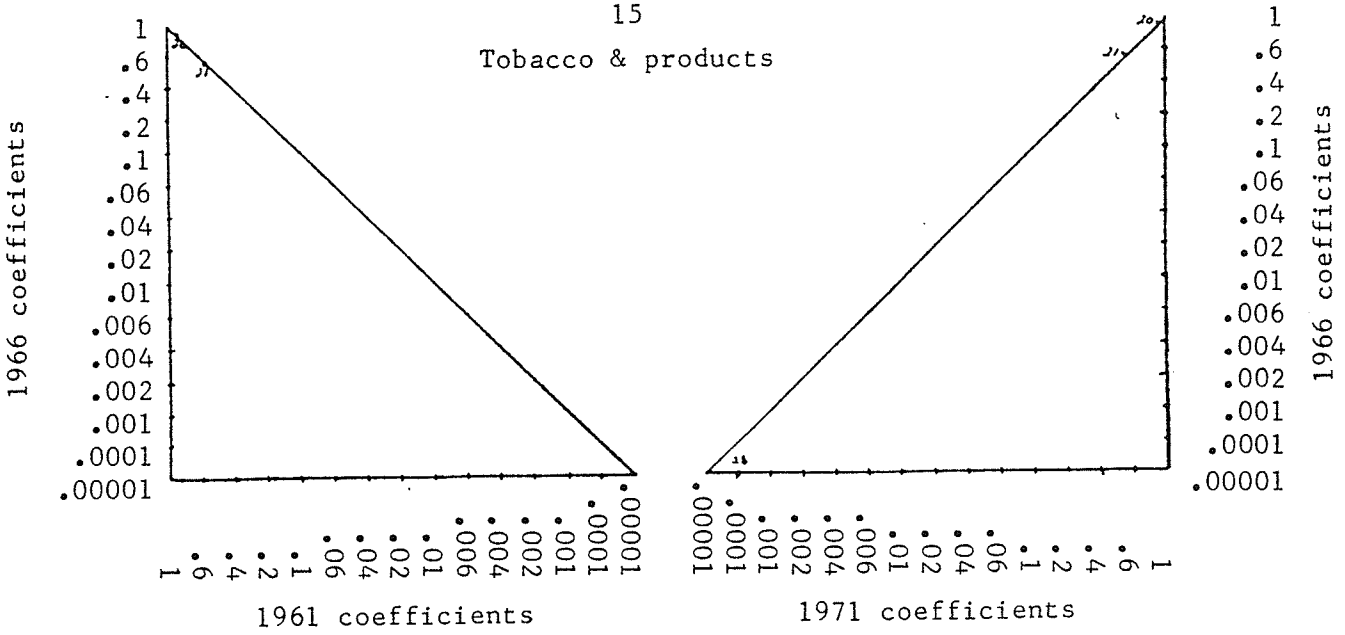
14

Alcohol ingredients & products



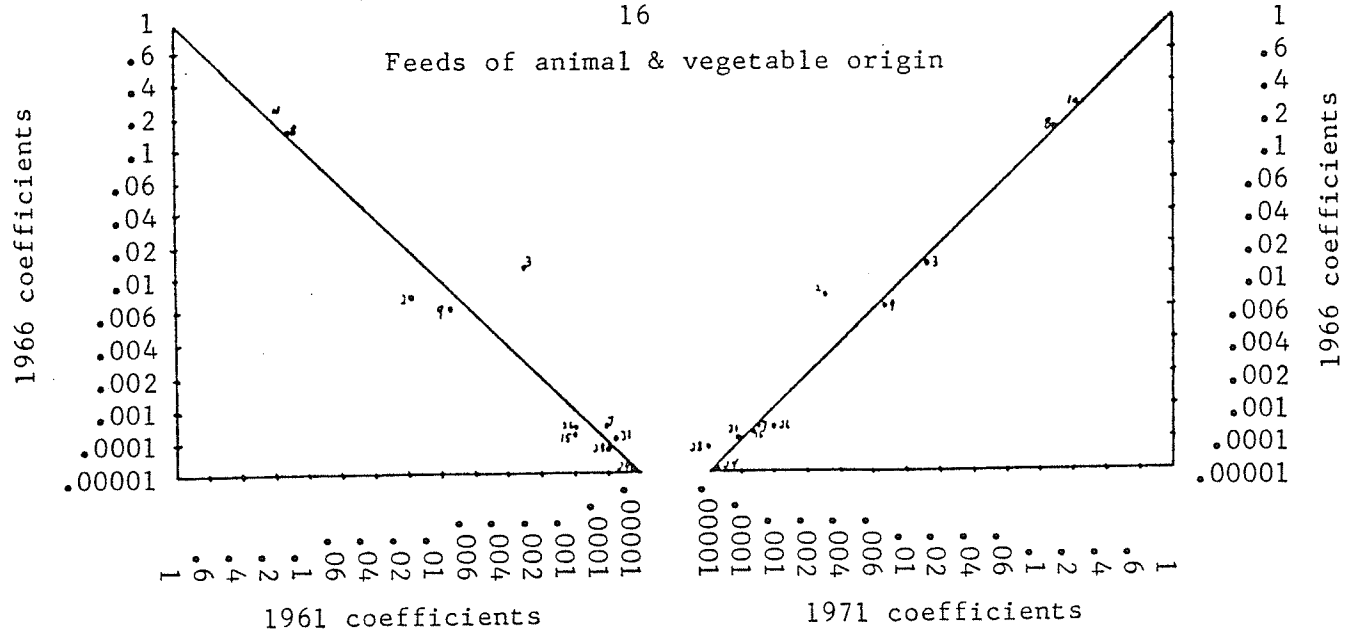
15

Tobacco & products



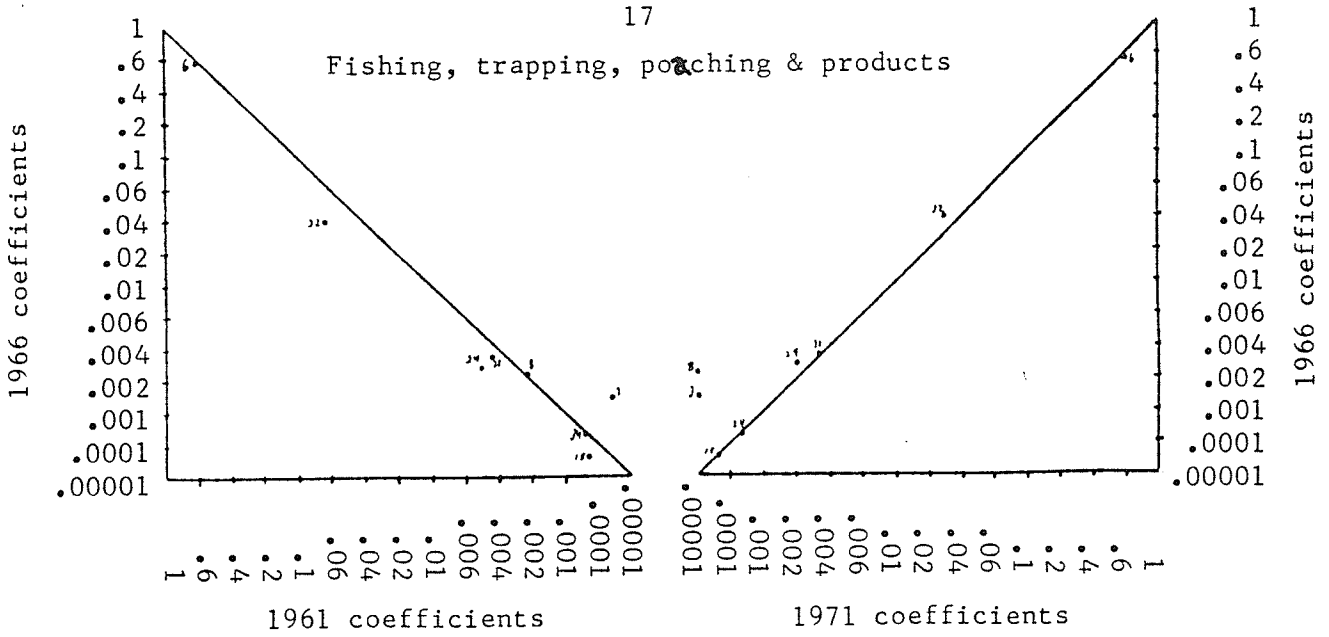
16

Feeds of animal & vegetable origin



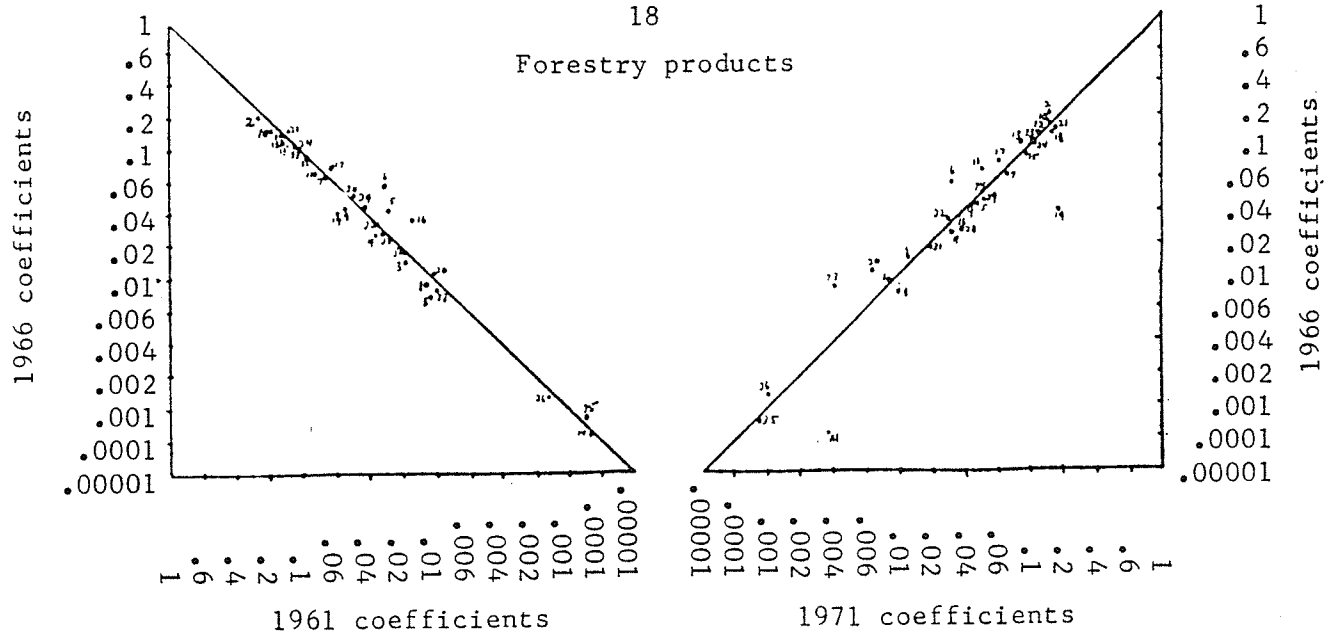
17

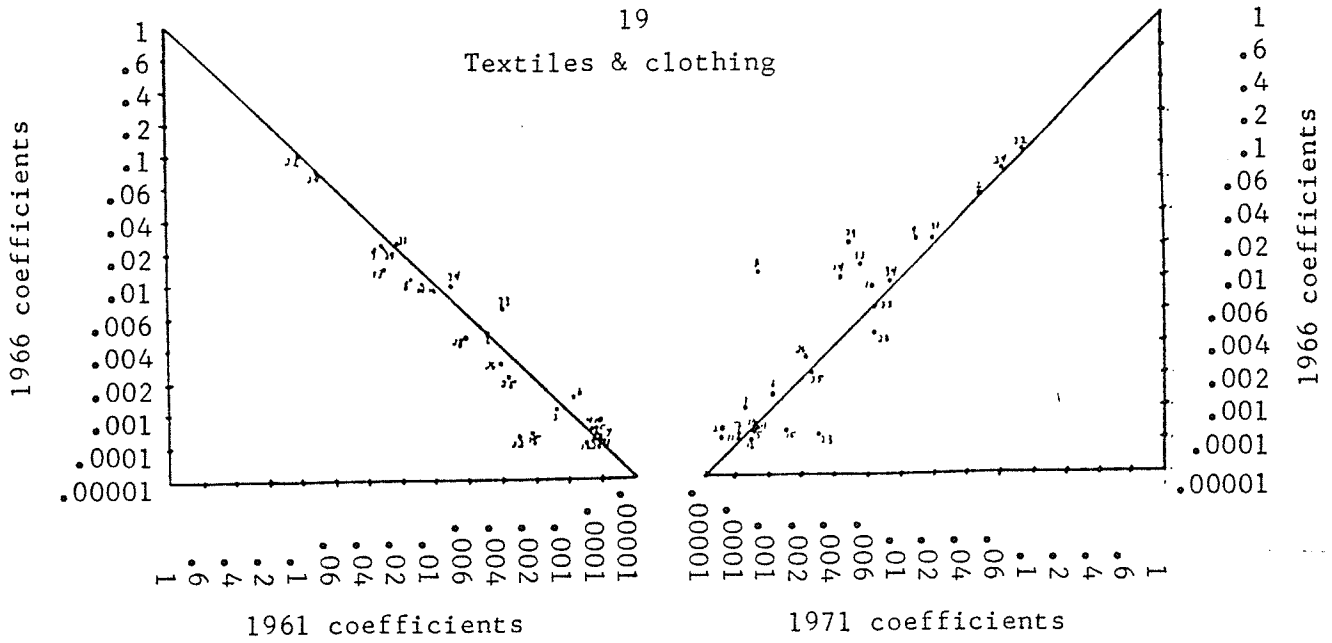
Fishing, trapping, poaching & products

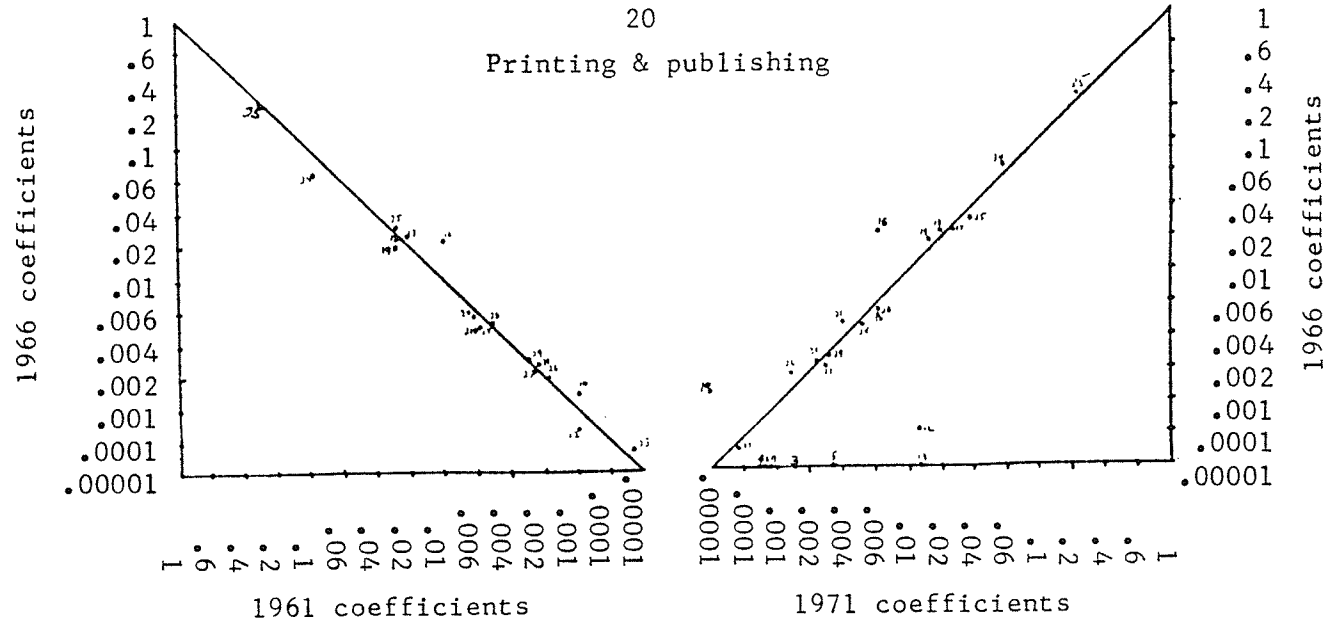


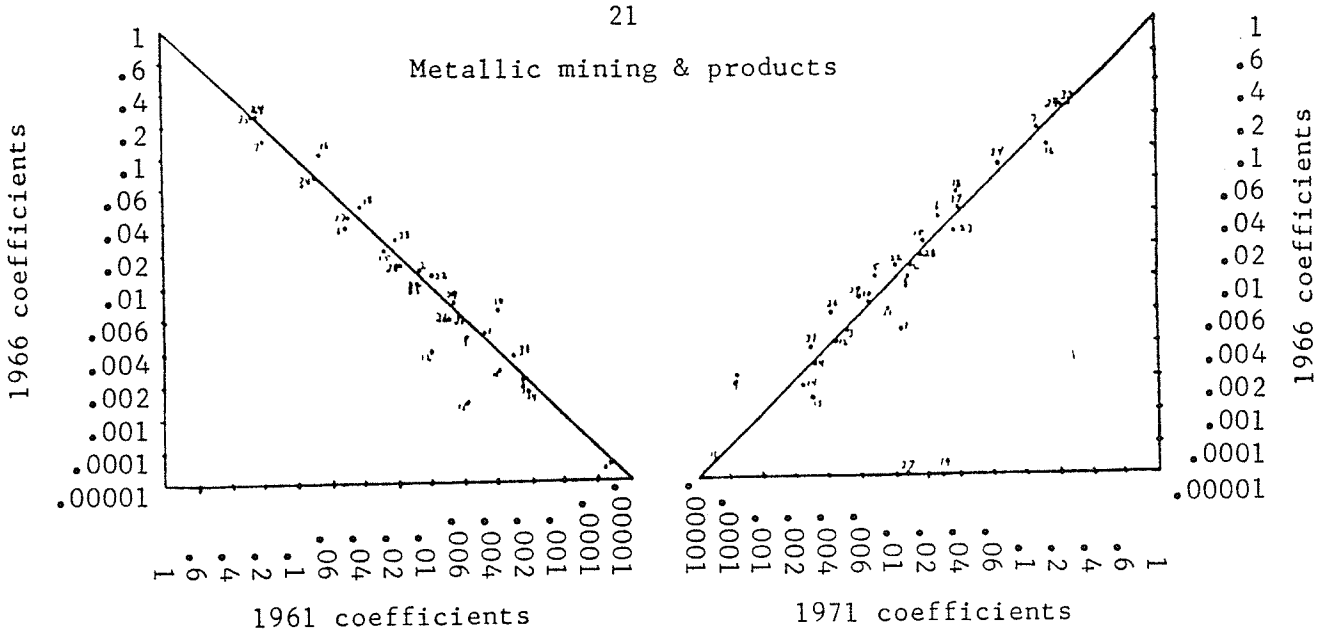
18

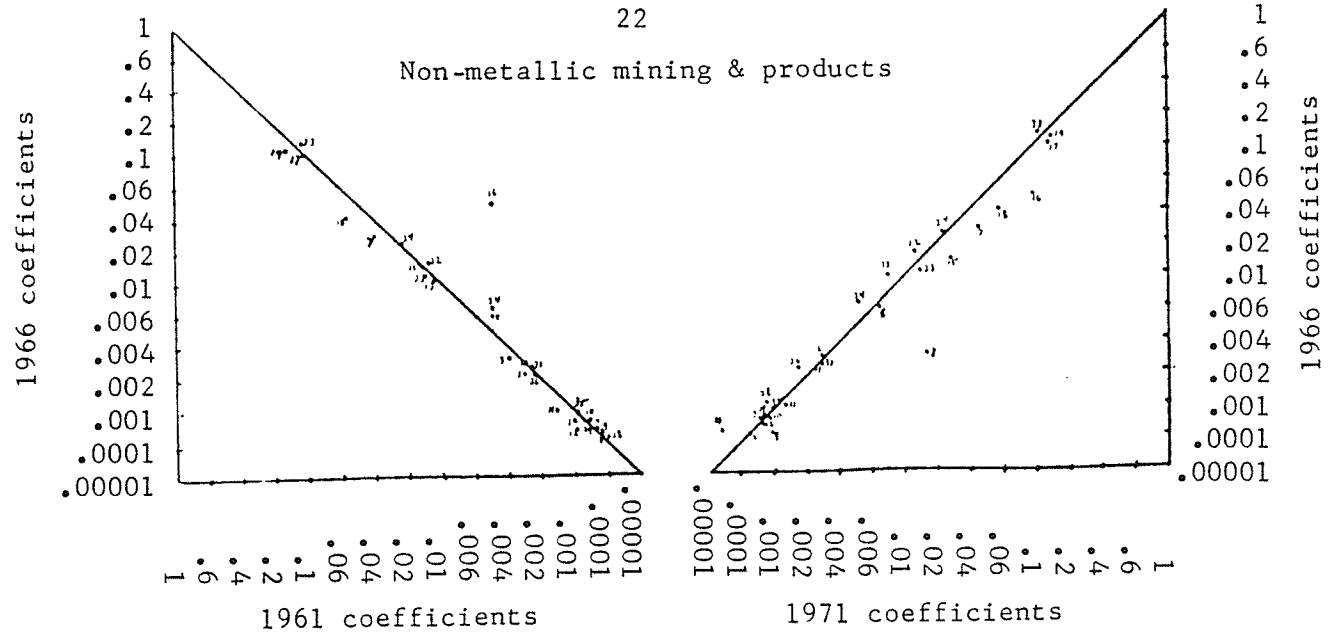
Forestry products




19
Textiles & clothing
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients

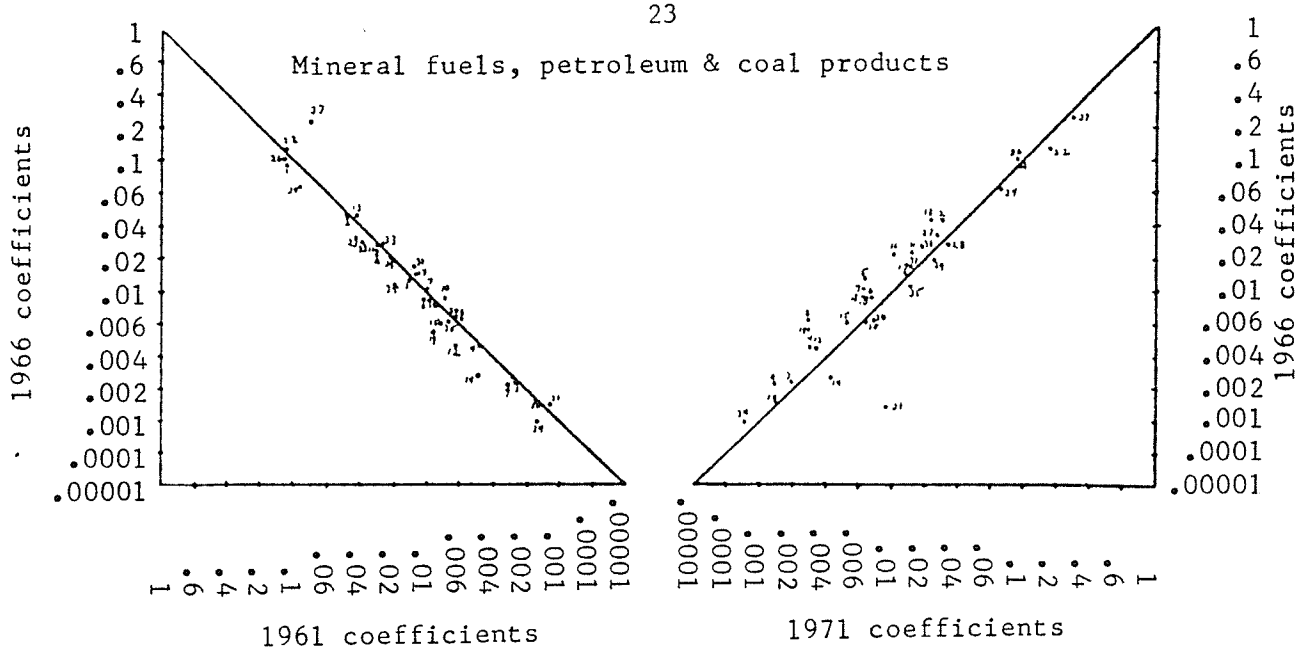

20
Printing & publishing
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients


21
Metallic mining & products
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients
1 .6 .4 .2 .1 .06 .04 .02 .01 .006 .004 .002 .001 .0001 .00001


22
Non-metallic mining & products
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients
1 .6 .4 .2 .1 .06 .04 .02 .01 .006 .004 .002 .001 .0001 .00001

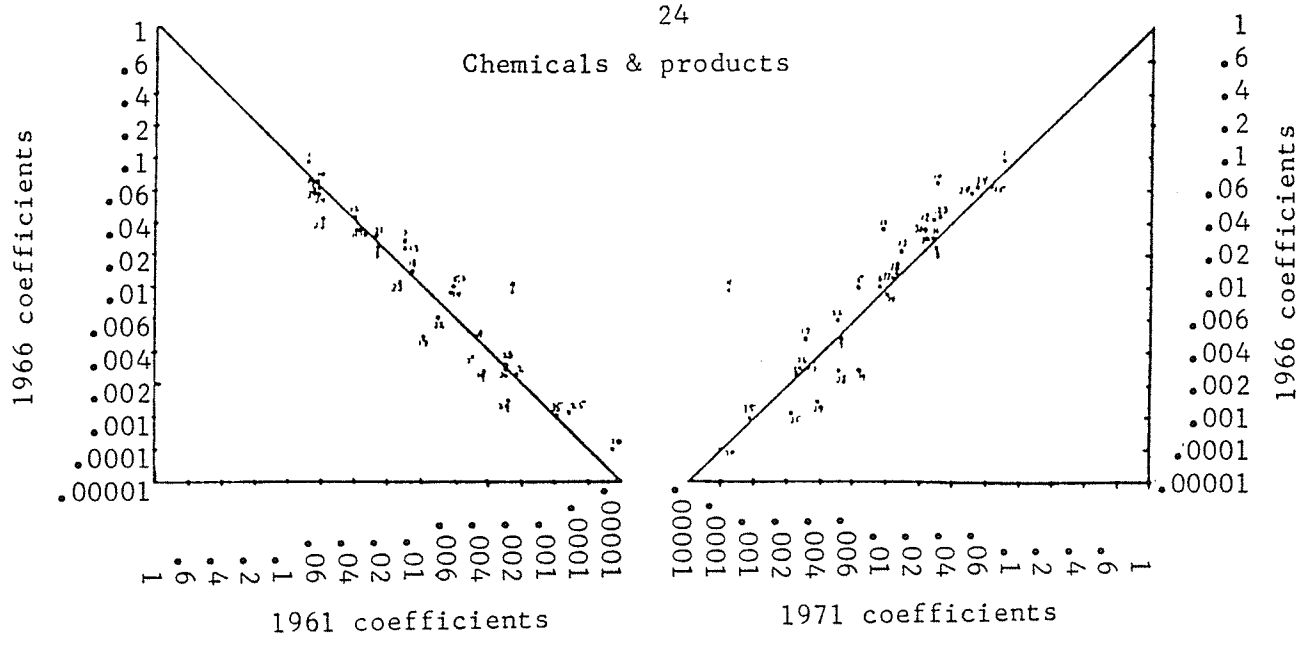
23

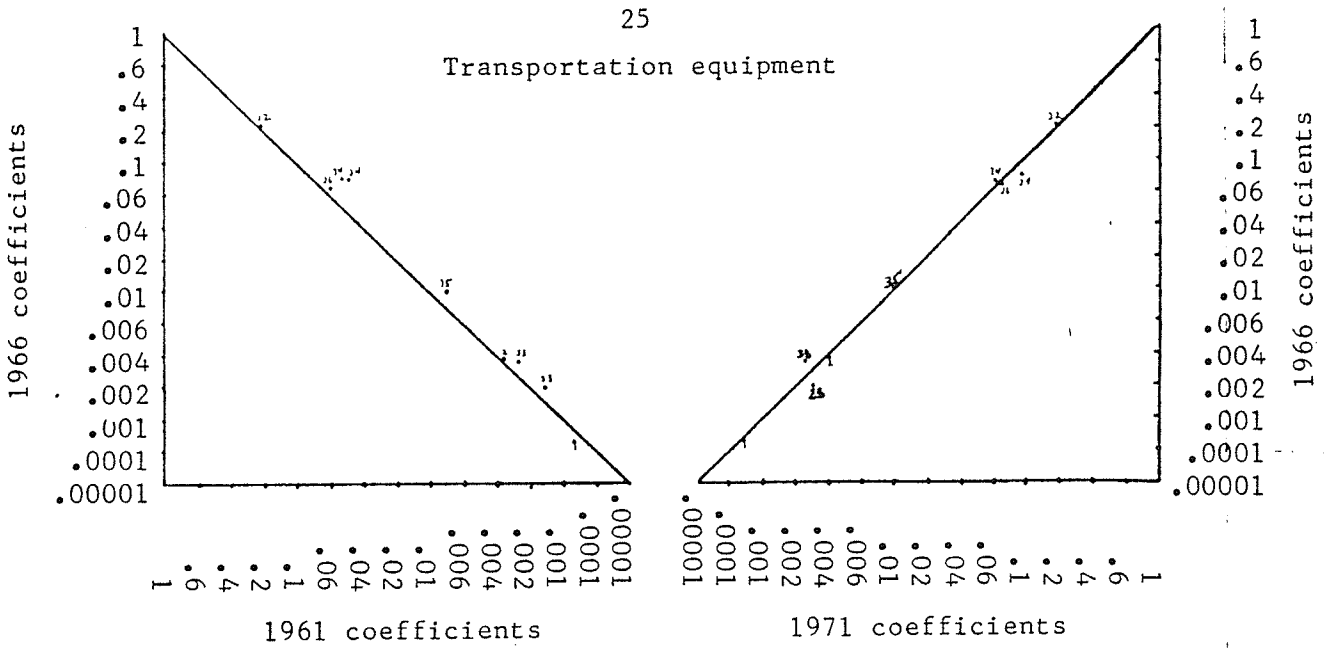
Mineral fuels, petroleum & coal products

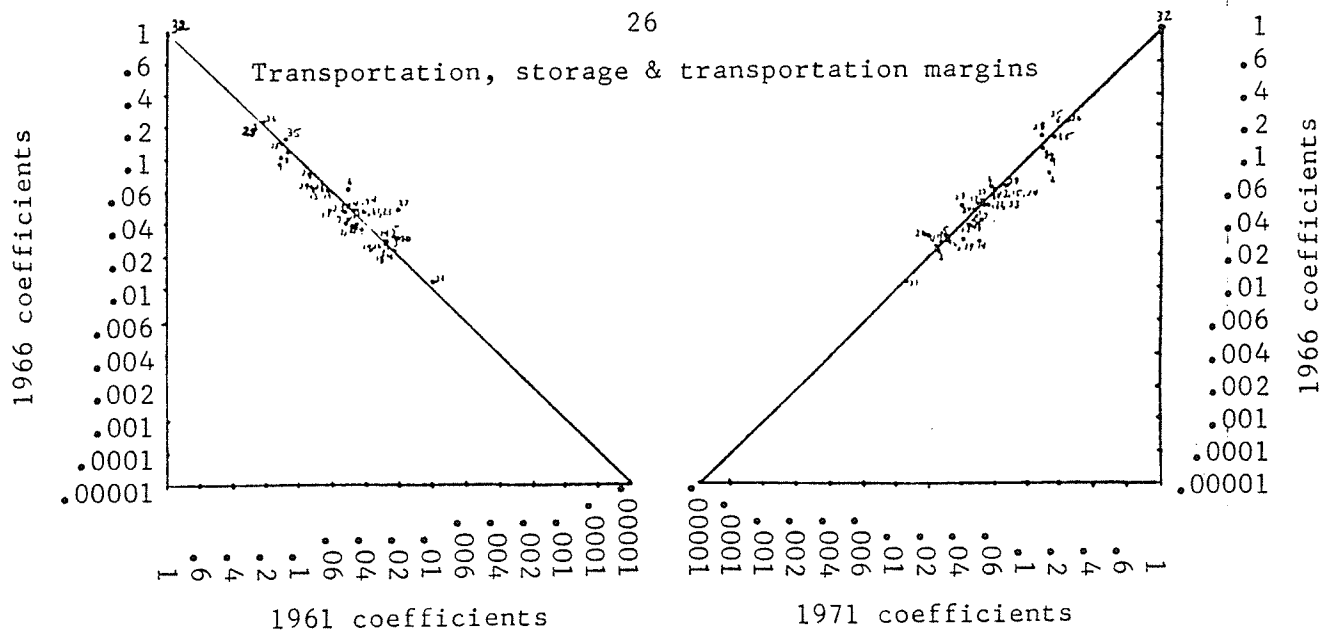


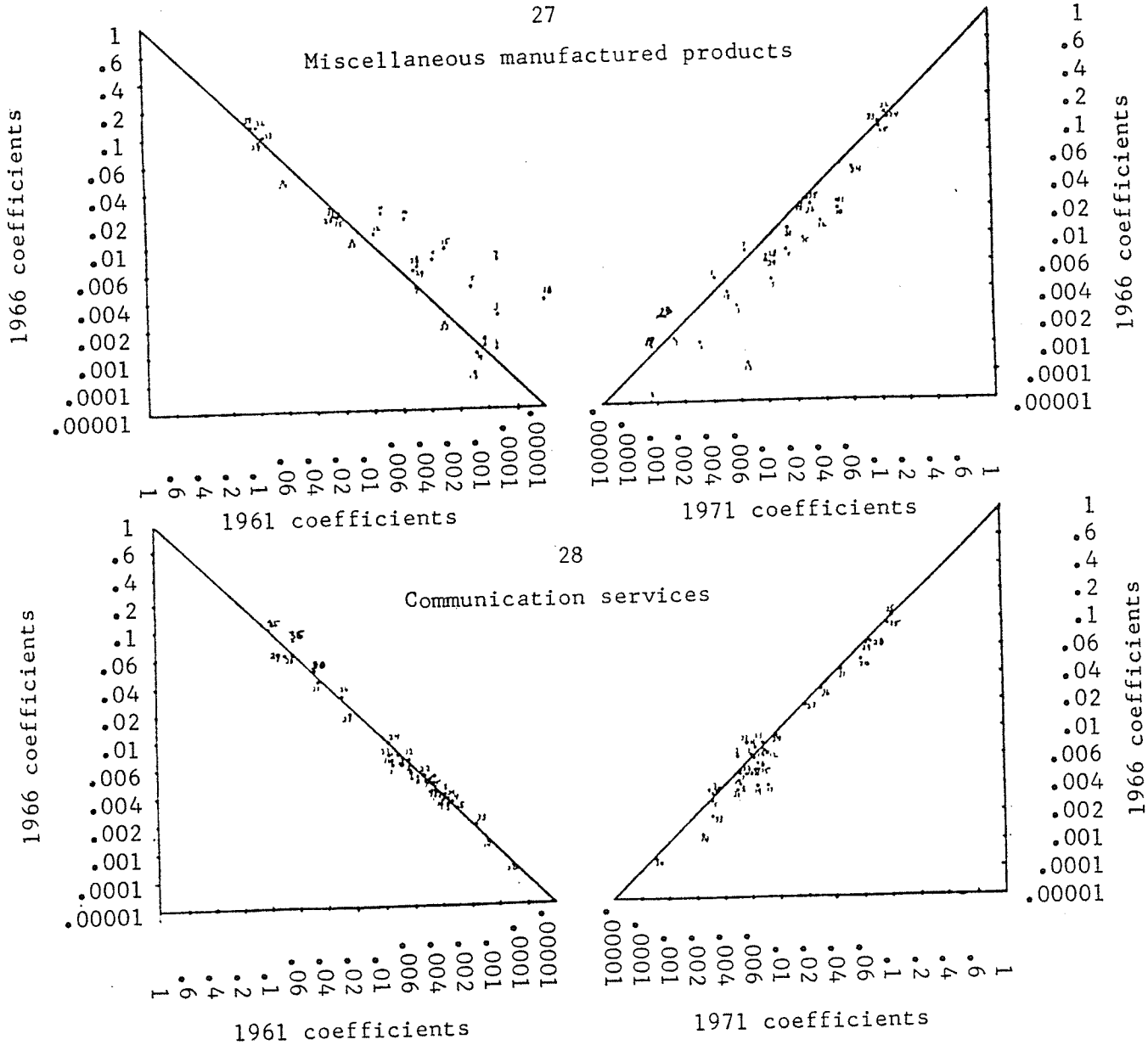
24

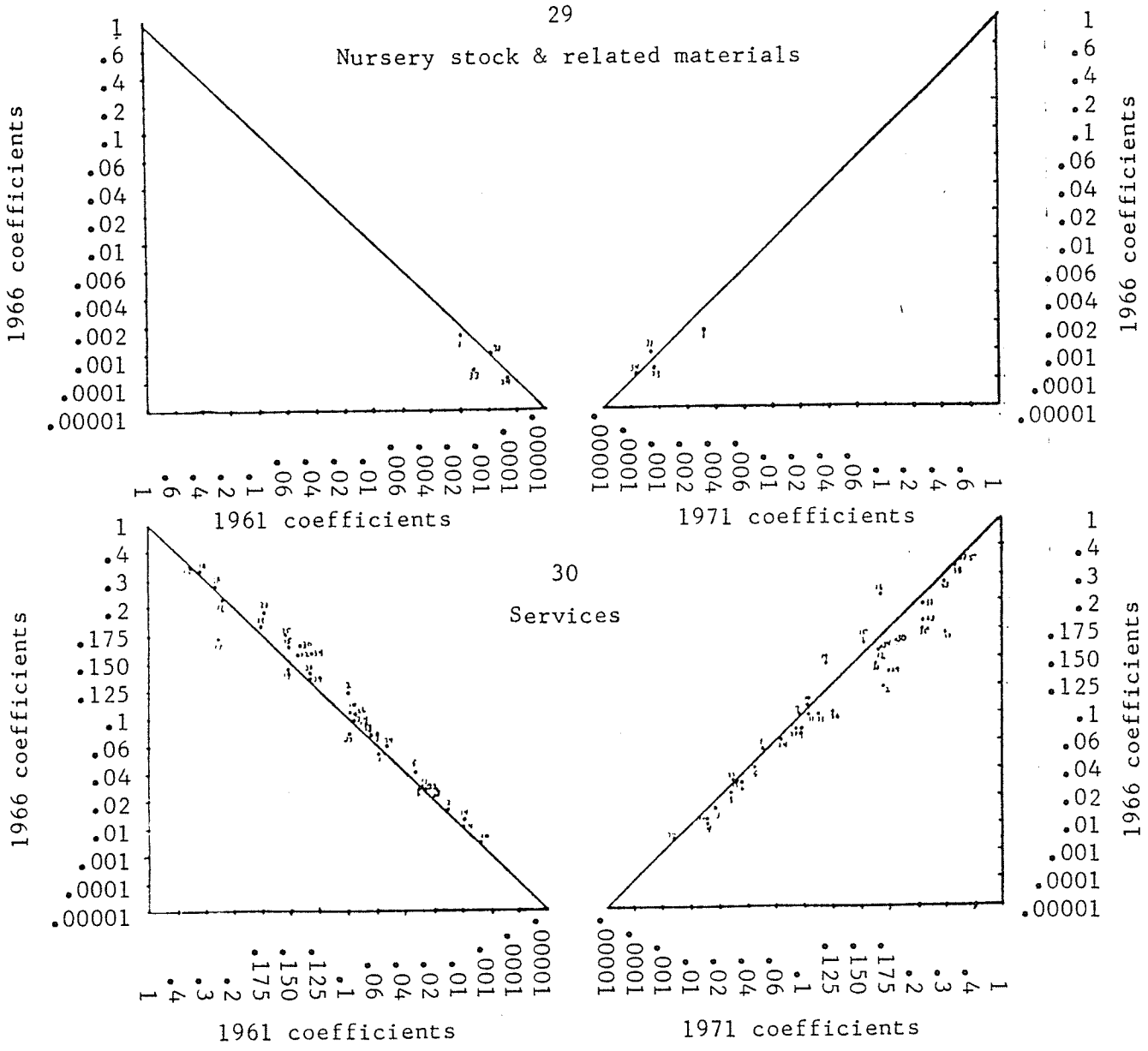
Chemicals & products

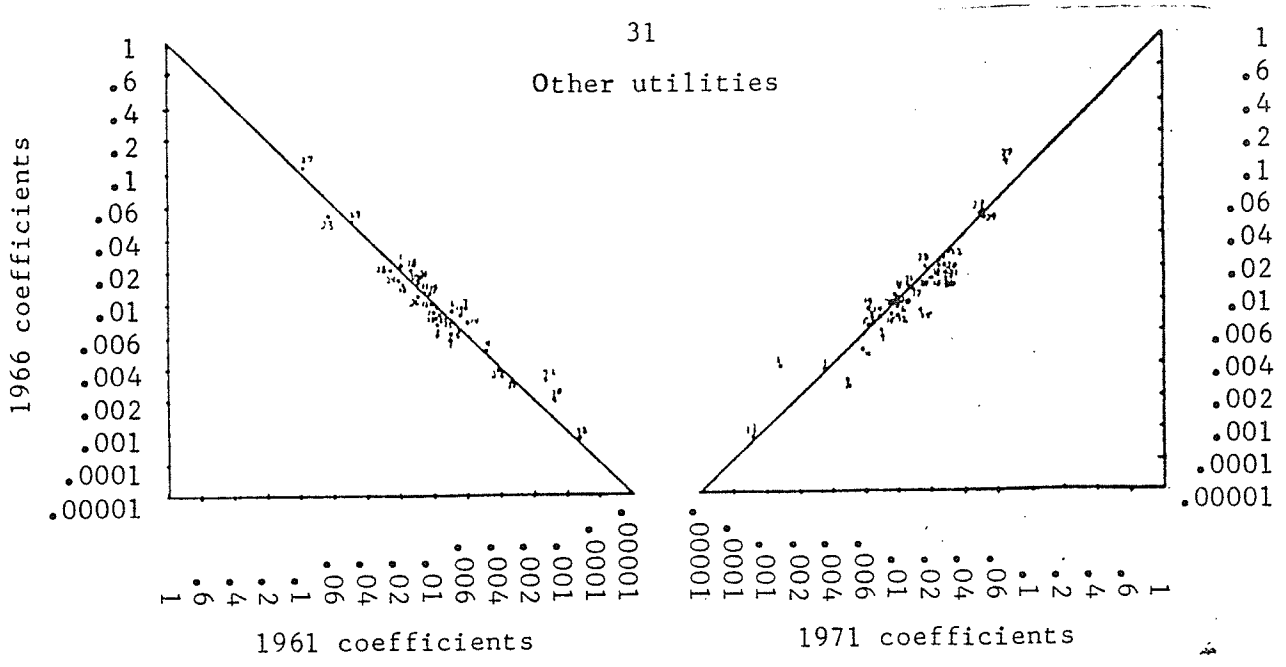


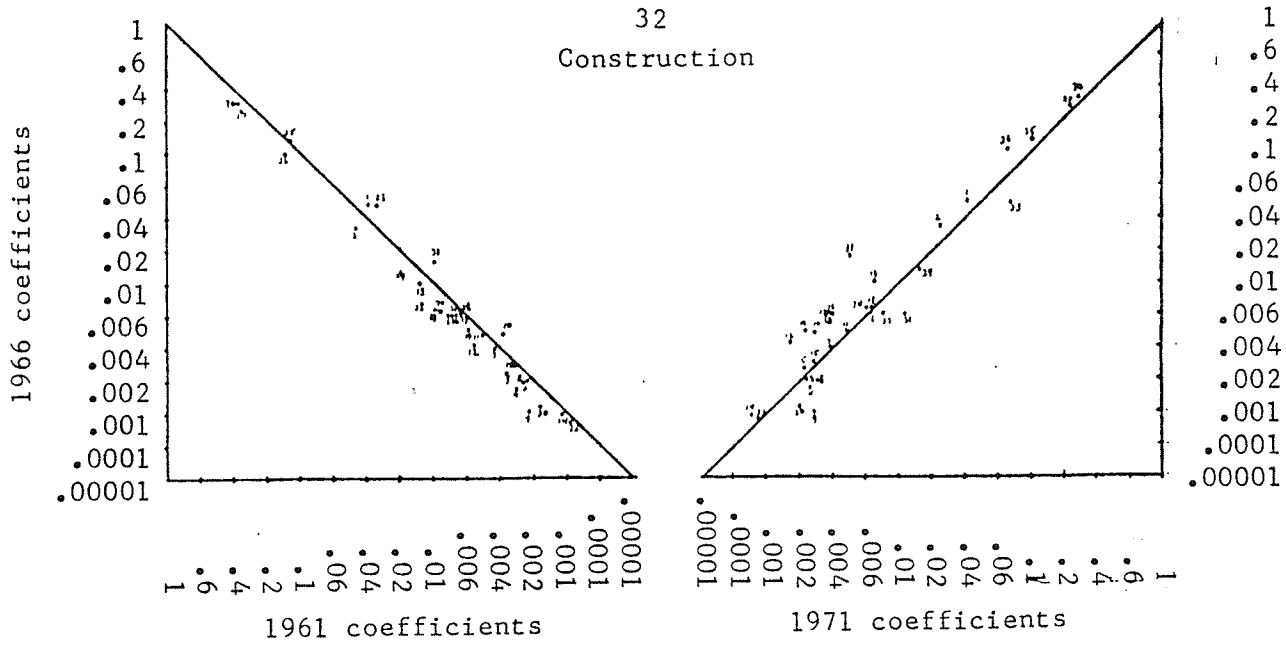

25
Transportation equipment
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients

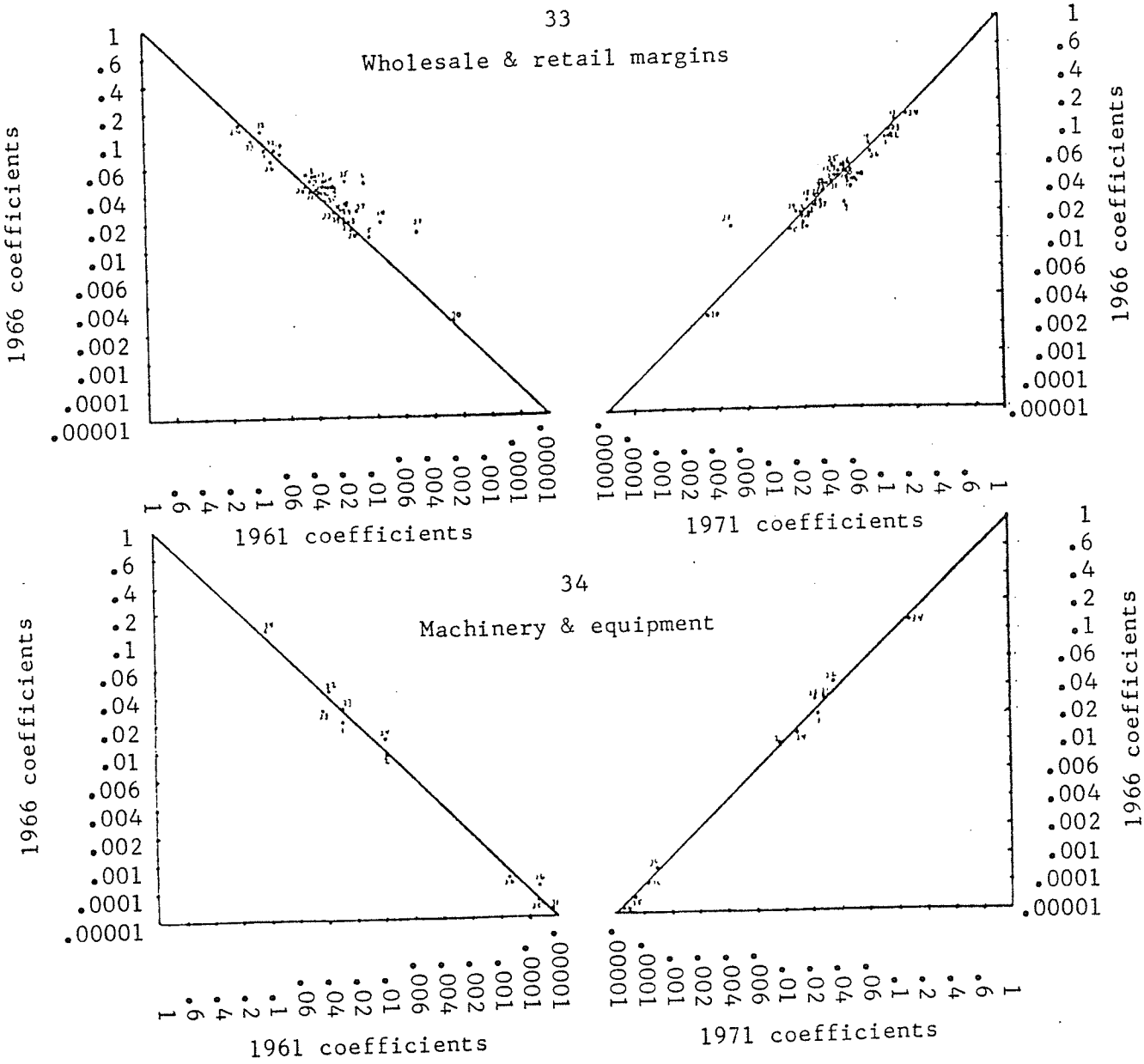

26
Transportation, storage & transportation margins
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients

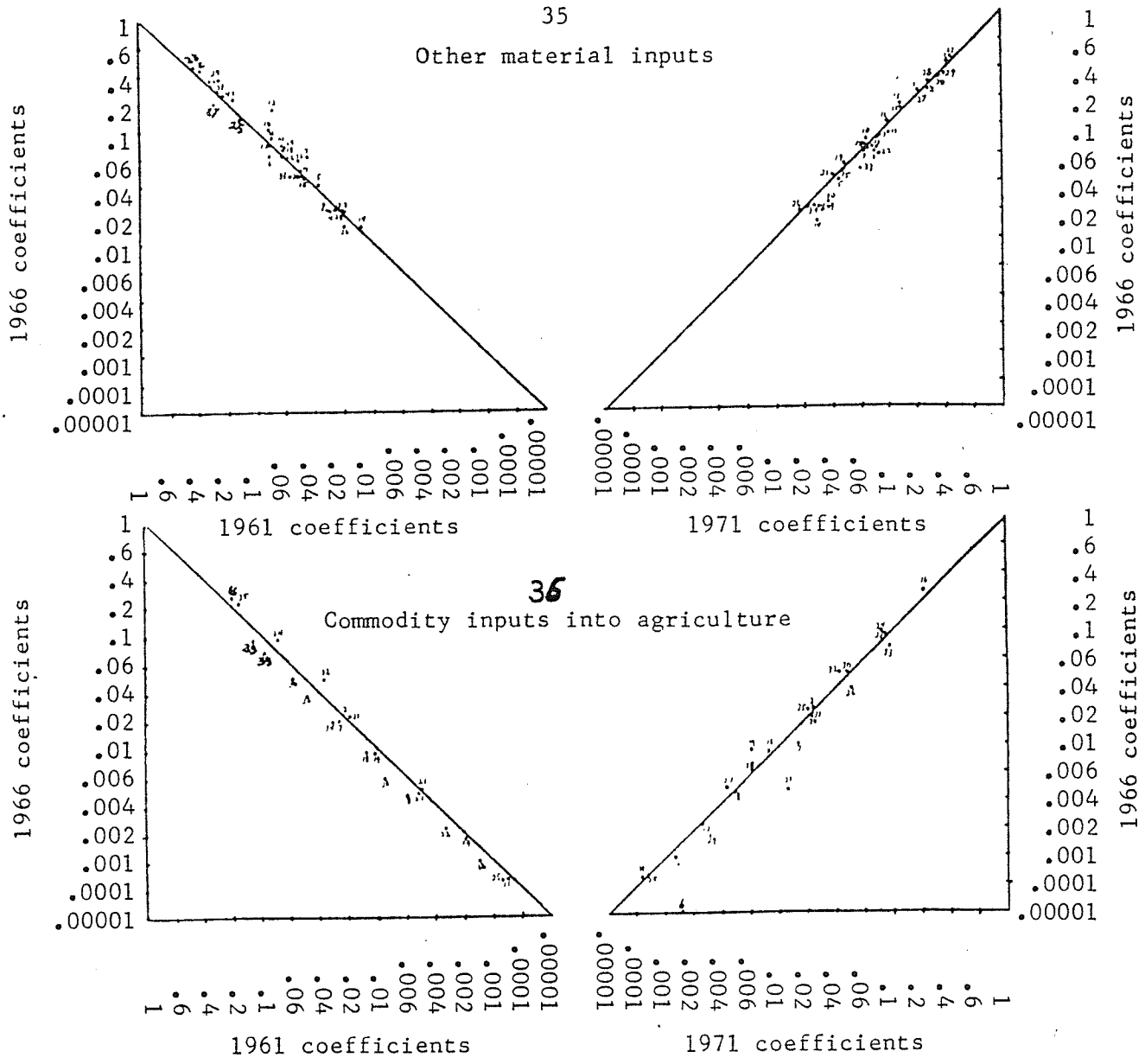

27
Miscellaneous manufactured products
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients
28
Communication services
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients


29
Nursery stock & related materials
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients
30
Services
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients


31
Other utilities
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients
1 .6 .4 .2 .1 .06 .04 .02 .01 .006 .004 .002 .001 .0001 .00001


32
Construction
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients
1 .6 .4 .2 .1 .06 .04 .02 .01 .006 .004 .002 .001 .0001 .00001


33
Wholesale & retail margins
1966 coefficients
1961 coefficients
1971 coefficients
34
Machinery & equipment
1966 coefficients
1961 coefficients
1971 coefficients


35
Other material inputs
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients
36
Commodity inputs into agriculture
1966 coefficients
1961 coefficients
1971 coefficients
1966 coefficients

A P P E N D I X C

Table 3c

Impact of Tariff

	Commodity																
	Cattle and Calves	Sheep and Lambs	Hogs	Poultry	Poultry, Fresh, Frozen, Packed	Poultry Eggs	Other Live Animals	Beef, Veal, Mutton, Pork-Fresh & Frozen	Horse Meat Fresh, Chilled, Frozen	Meat Cured	Meat Prepared, Cooked Not Canned	Meat Prepared Canned	Animal Oils and Fats not Land	Margarine, Shortening & Like Prod.	Sausage Casings, Natural and Synth.	Primary Tankage	Milk, Whole, Fluid, Processed
Agriculture	1.0554	1.0554	1.0554	1.0554	0.4758	0.6257	1.0554	0.0068	0.6763	0.6762	0.6769	0.5419	0.0027	0.3265	0.6764	0.1890	0.6129
Forestry	0.0114	0.0114	0.0114	0.0114	0.0095	0.0108	0.0114	0.0089	0.0160	0.0160	0.0160	0.0106	0.0105	0.0167	0.0160	0.0108	0.0107
Slaughtering & Meat Processors	0.0070	0.0070	0.0070	0.0070	0.1257	0.0892	0.0070	0.2595	1.1377	1.1374	1.1371	0.9791	1.1133	0.5197	1.1377	0.9718	0.0063
Poultry Processors	0.0003	0.0003	0.0003	0.0004	0.6440	1.0769	0.0003	0.0009	0.0005	0.0005	0.0005	0.0074	0.0004	0.0009	0.0005	0.0005	0.0005
Dairy Factories	0.0021	0.0021	0.0021	0.0021	0.0027	0.0034	0.0021	0.0029	0.0033	0.0033	0.0033	0.0041	0.0023	0.0061	0.0033	0.0038	1.0659
Fish Products Industry	0.0012	0.0012	0.0012	0.0012	0.0012	0.0013	0.0012	0.0027	0.0034	0.0034	0.0034	0.0029	0.0034	0.0022	0.0034	0.0043	0.0010
Fruit and Veg. Processors	0.0007	0.0007	0.0007	0.0007	0.0056	0.0258	0.0007	0.0008	0.0009	0.0009	0.0010	0.1654	0.0009	0.0022	0.0009	0.0011	0.0011
Feed Manufacturers	0.0916	0.0916	0.0916	0.0916	0.0418	0.0554	0.0916	0.0496	0.0598	0.0598	0.0598	0.0520	0.0675	0.0296	0.0598	0.1867	0.0525
Flour & Breakfast Cereal Ind.	0.0124	0.0124	0.0124	0.0124	0.0059	0.0077	0.0124	0.0073	0.0087	0.0087	0.0087	0.0079	0.0085	0.0132	0.0087	0.0112	0.0076
Misc. Manufacturers	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0004
Bakeries	0.0006	0.0006	0.0006	0.0006	0.0004	0.0010	0.0006	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0009
Confectionery Mfgrs.	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003	0.0003	0.0012	0.0002	0.0003	0.0010
Sugar Refineries	0.0014	0.0014	0.0014	0.0014	0.0011	0.0018	0.0014	0.0013	0.0016	0.0016	0.0016	0.0016	0.0016	0.0077	0.0016	0.0027	0.0013
Vegetable Oil Mills	0.0062	0.0062	0.0062	0.0062	0.0037	0.0042	0.0062	0.0091	0.0116	0.0116	0.0116	0.0099	0.0115	0.0083	0.0116	0.0169	0.0078
Misc. Food Ind.	0.0029	0.0029	0.0029	0.0029	0.0030	0.0040	0.0029	0.0042	0.0051	0.0054	0.0057	0.0174	0.0052	0.4056	0.0051	0.0074	0.0075
Soft Drinks Mfgrs.	0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003
Distillers	0.0004	0.0004	0.0004	0.0004	0.0003	0.0004	0.0004	0.0003	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005	0.0004	0.0007	0.0004
Breweries	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004	0.0003	0.0005	0.0003	0.0005	0.0004
Wineries	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Leaf Tobacco Processing	0.0000	0.0000	0.0000	0.0000	0.0002	0.0003	0.0000	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001
Tobacco Prod. Mfgrs.	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting & Trapping	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0007	0.0012	0.0015	0.0015	0.0015	0.0014	0.0015	0.0012	0.0015	0.0021	0.0008
Mines, Quarries & Oil Wells	0.0139	0.0139	0.0139	0.0139	0.0126	0.0150	0.0139	0.0131	0.0143	0.0143	0.0144	0.0159	0.0152	0.0268	0.0143	0.0162	0.0152
Manufacturing Except Food	0.1995	0.1995	0.1995	0.1995	0.1994	0.2269	0.1995	0.1823	0.2000	0.2000	0.2000	0.2280	0.2163	0.4360	0.2000	0.2322	0.2296
Communications	0.0097	0.0097	0.0097	0.0097	0.0133	0.0144	0.0097	0.0171	0.0135	0.0135	0.0135	0.0139	0.0135	0.0148	0.0135	0.0133	0.0127
Transportation and Storage	0.0444	0.0444	0.0444	0.0444	0.0554	0.0632	0.0444	0.0512	0.0542	0.0542	0.0542	0.0562	0.0548	0.0631	0.0542	0.0632	0.0540
Elec. Power, Gas, Other Utilities	0.0126	0.0126	0.0126	0.0126	0.0155	0.0148	0.0126	0.0144	0.0136	0.0136	0.0136	0.0132	0.0137	0.0131	0.0136	0.0137	0.0147
Wholesale Trade	0.0457	0.0457	0.0457	0.0457	0.0434	0.0553	0.0457	0.0437	0.0507	0.0507	0.0507	0.0500	0.0505	0.0437	0.0507	0.0508	0.0516
Retail Trade	0.0165	0.0165	0.0165	0.0165	0.3575	0.0792	0.0165	0.2489	0.0485	0.0485	0.0485	0.0443	0.0478	0.0292	0.0485	0.0432	0.0162
Fin., Ins., Real Estate	0.0478	0.0478	0.0478	0.0478	0.0551	0.0439	0.0478	0.0494	0.0408	0.0407	0.0407	0.0398	0.0406	0.0361	0.0408	0.0391	0.0443
Community Bus., Personal Serv.	0.0188	0.0188	0.0188	0.0188	0.0264	0.0250	0.0188	0.0259	0.0249	0.0249	0.0249	0.0277	0.0250	0.0357	0.0249	0.0250	0.0318
Transp. Margins	0.0277	0.0277	0.0277	0.0277	0.0326	0.0390	0.0277	0.0316	0.0351	0.0351	0.0351	0.0356	0.0353	0.0359	0.0351	0.0387	0.0338
Construction	0.0265	0.0265	0.0265	0.0265	0.0228	0.0241	0.0265	0.0224	0.0229	0.0229	0.0229	0.0217	0.0228	0.0184	0.0229	0.0219	0.0230
Oper. Office, Lab & Food	0.0708	0.0708	0.0708	0.0708	0.0722	0.0784	0.0708	0.0692	0.0718	0.0718	0.0718	0.0687	0.0716	0.0599	0.0718	0.0696	0.0743
Travel & Advertising Promotion	0.0127	0.0127	0.0127	0.0127	0.0277	0.0236	0.0127	0.0272	0.0246	0.0246	0.0247	0.0330	0.0248	0.0577	0.0246	0.0258	0.0332
Multiplier	1.7418	1.7418	1.7418	1.7419	2.2465	2.5755	1.7418	2.[illegible]066	2.5376	2.5373	2.5374	2.4601	2.5253	2.2122	2.5376	2.4638	2.4159

(Continued)

Table 3c (continued)

	Commodity																
	Milk, Whole, Fluid, Unprocessed	Fresh Cream	Butter	Cheese, Cheddar & Processed	Milk Evaporated	Ice Cream	Other Dairy Prod.	Rice Unmilled	Wheat Unmilled	Barley, Oats, Rye, Corn, Grain Nes.	Wheat Flour	Fruits, Fresh, Ex. Tropical	Vegetables, Fresh	Veg. Fresh, Frozen, Dried & Preserved	Vegetables & Preparations Canned	Fruits, Berries, Dried, Crystallized	Fruits & Preparations Canned
Agriculture	1.0554	0.0598	0.6152	0.0082	0.6175	0.5741	0.5979	0.0	1.0553	1.0446	0.2635	1.0515	0.0548	0.1355	0.1381	0.1233	0.1471
Forestry	0.0114	0.0107	0.0109	0.0106	0.0109	0.0108	0.0109	0.0	0.0114	0.0113	0.0088	0.0113	0.0114	0.0134	0.0136	0.0130	0.0132
Slaughtering & Meat Processors	0.0070	0.0063	0.0063	0.0337	0.0064	0.0064	0.0065	0.0	0.0070	0.0071	0.0060	0.0070	0.0070	0.0246	0.0261	0.0224	0.0226
Poultry Processors	0.0003	0.0007	0.0007	0.0005	0.0006	0.0006	0.0041	0.0	0.0003	0.0003	0.0004	0.0006	0.0003	0.0113	0.0118	0.0101	0.0105
Dairy Factories	0.0021	0.0413	1.0680	1.0299	1.0747	0.9949	1.0343	0.0	0.0021	0.0021	0.0021	0.0021	0.0021	0.0075	0.0073	0.0080	0.0459
Fish Products Industry	0.0012	0.0009	0.0010	0.0010	0.0010	0.0009	0.0010	0.0	0.0012	0.0012	0.0009	0.0050	0.0012	0.0012	0.0011	0.0011	0.0010
Fruit and Veg. Processors	0.0007	0.0018	0.0018	0.0018	0.0018	0.0019	0.0026	0.0	0.0007	0.0007	0.0007	0.0007	0.0007	0.9745	1.0173	0.8453	0.8976
Feed Manufacturers	0.0916	0.0523	0.0538	0.0532	0.0540	0.0502	0.0523	0.0	0.0917	0.0917	0.0342	0.0913	0.0915	0.0389	0.0134	0.0121	0.0141
Flour & Breakfast Cereal Industry	0.0124	0.0074	0.0076	0.0076	0.0077	0.0079	0.0082	0.0	0.0124	0.0142	1.0023	0.0123	0.0124	0.0053	0.0030	0.0064	0.0048
Misc. Mfgrs.	0.0001	0.0004	0.0004	0.0004	0.0004	0.0005	0.0004	0.0	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002
Bakeries	0.0006	0.0009	0.0009	0.0009	0.0009	0.0014	0.0009	0.0	0.0006	0.0007	0.0007	0.0007	0.0006	0.0010	0.0017	0.0009	0.0010
Confectionary Mfgrs.	0.0002	0.0010	0.0010	0.0010	0.0010	0.0652	0.0011	0.0	0.0002	0.0002	0.0003	0.0002	0.0002	0.0007	0.0006	0.0037	0.0024
Sugar Refineries	0.0014	0.0052	0.0053	0.0052	0.0053	0.0093	0.0058	0.0	0.0014	0.0016	0.0062	0.0014	0.0014	0.0304	0.0309	0.0290	0.0291
Vegetable Oil Mills	0.0062	0.0037	0.0038	0.0040	0.0038	0.0038	0.0040	0.0	0.0062	0.0063	0.0039	0.0062	0.0062	0.0029	0.0015	0.0025	0.0021
Misc. Food Ind.	0.0029	0.0074	0.0078	0.0093	0.0076	0.0247	0.0443	0.0	0.0029	0.0122	0.0060	0.0029	0.0036	0.0413	0.0137	0.1873	0.1009
Soft Drinks Manufacturers	0.0003	0.0006	0.0006	0.0006	0.0006	0.0005	0.0006	0.0	0.0003	0.0003	0.0003	0.0003	0.0003	0.0005	0.0005	0.0005	0.0005
Distillers	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0	0.0004	0.0004	0.0009	0.0004	0.0004	0.0006	0.0005	0.0007	0.0006
Breweries	0.0003	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0	0.0003	0.0003	0.0008	0.0003	0.0003	0.0006	0.0005	0.0006	0.0006
Wineries	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0109	0.0001
Leaf Tobacco Processing	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002	0.0002	0.0002	0.0002
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0007	0.0006	0.0006	0.0007	0.0006	0.0006	0.0007	0.0	0.0007	0.0007	0.0006	0.0021	0.0007	0.0008	0.0007	0.0007	0.0007
Mines, Quarries & Oil Wells	0.0139	0.0156	0.0158	0.0157	0.0159	0.0159	0.0159	0.0	0.0139	0.0139	0.0134	0.0139	0.0139	0.0235	0.0239	0.0227	0.0230
Manufacturing Except Food	0.1995	0.2272	0.2300	0.2281	0.2305	0.2327	0.2317	0.0	0.1995	0.2000	0.2067	0.1996	0.1995	0.3595	0.3651	0.3481	0.3517
Communications	0.0097	0.0131	0.0126	0.0128	0.0125	0.0128	0.0127	0.0	0.0097	0.0097	0.0145	0.0097	0.0097	0.0154	0.0156	0.0156	0.0156
Transportation & Storage	0.0444	0.0544	0.0539	0.0542	0.0538	0.0544	0.0546	0.0	0.0444	0.0449	0.1398	0.0445	0.0444	0.0663	0.0644	0.0662	0.0651
Elec. Power, Gas, Other Utilities	0.0126	0.0146	0.0148	0.0147	0.0148	0.0145	0.0146	0.0	0.0126	0.0126	0.0118	0.0126	0.0126	0.0116	0.0116	0.0113	0.0115
Wholesale Trade	0.0457	0.0740	0.0478	0.0593	0.0436	0.0432	0.0434	0.0	0.0457	0.0457	0.0399	0.0457	0.0457	0.0474	0.0528	0.0468	0.0526
Retail Trade	0.0165	0.0162	0.0163	0.0170	0.0163	0.0160	0.0164	0.0	0.0165	0.0165	0.0137	0.0165	0.0165	0.0235	0.0239	0.0221	0.0228
Fin., Ins., Real Estate	0.0478	0.0448	0.0442	0.0444	0.0442	0.0434	0.0436	0.0	0.0478	0.0476	0.0291	0.0478	0.0478	0.0353	0.0358	0.0346	0.0356
Community Bus., Personal Serv.	0.0188	0.0322	0.0317	0.0318	0.0317	0.0327	0.0321	0.0	0.0188	0.0190	0.0331	0.0188	0.0188	0.0403	0.0406	0.0412	0.0407
Transportation Margins	0.0277	0.0335	0.0338	0.0337	0.0339	0.0339	0.0340	0.0	0.0277	0.0279	0.0732	0.0277	0.0277	0.0388	0.0380	0.0380	0.0379
Construction	0.0265	0.0228	0.0230	0.0229	0.0230	0.0223	0.0227	0.0	0.0265	0.0263	0.0183	0.0264	0.0265	0.0161	0.0161	0.0156	0.0161
Oper. Office, Lab & Food	0.0708	0.0738	0.0744	0.0740	0.0745	0.0726	0.0735	0.0	0.0708	0.0705	0.0586	0.0707	0.0708	0.0540	0.0542	0.0525	0.0541
Travel & Advertising Promotion	0.0127	0.0341	0.0330	0.0334	0.0328	0.0375	0.0354	0.0	0.0127	0.0136	0.0660	0.0127	0.0127	0.0707	0.0706	0.0768	0.0723
Multiplier	1.7418	2.3969	2.4185	2.4117	2.4394	2.3865	2.4074	0.0	1.7418	1.7442	2.0528	1.7430	1.7419	2.0939	2.0954	2.0704	2.0942

(continued)

Table 3c (continued)

	Commodity																
	Eggs in the Shell	Nuts, Edible, Not Shelled	Seeds Ex. Oil and Seed Grades	Oil Seeds, Nuts and Kernels	Nuts, Kernels and Seeds Prepared	Meal & Flour of Other Cereals & Veg.	Breakfast Cereal Products	Biscuits	Bread & Rolls	Other Baking Products	Cocoa and Chocolate	Chocolate Confectionery	Other Confectionery	Sugar	Molasses, Sugar Refinery Products	Oilseed, Meal & Cake	Maple Sugar & Syrup
Agriculture	1.0554	1.0418	1.0554	1.0529	0.0491	0.2340	0.2549	0.0635	0.0786	0.0785	0.0475	0.0473	0.0697	0.0760	0.0751	0.1287	0.5270
Forestry	0.0114	0.0113	0.0114	0.0114	0.0097	0.0089	0.0089	0.0116	0.0085	0.0086	0.0095	0.0095	0.0096	0.0040	0.0050	0.0029	0.0105
Slaughtering & Meat Processors	0.0070	0.0071	0.0070	0.0070	0.0077	0.0085	0.0062	0.0381	0.0293	0.0297	0.0051	0.0047	0.0057	0.0013	0.0038	0.0020	0.0116
Poultry Processors	0.0003	0.0003	0.0003	0.0003	0.0003	0.0006	0.0004	0.0006	0.0017	0.0017	0.0006	0.0006	0.0006	0.0001	0.0007	0.0002	0.0011
Dairy Factories	0.0021	0.0022	0.0021	0.0021	0.0077	0.0034	0.0025	0.0136	0.0164	0.0165	0.0307	0.0312	0.0701	0.0007	0.0023	0.0007	0.0070
Fish Products Industry	0.0012	0.0012	0.0012	0.0012	0.0006	0.0012	0.0009	0.0006	0.0009	0.0009	0.0005	0.0004	0.0005	0.0002	0.0004	0.0004	0.0015
Fruit and Veg. Processors	0.0007	0.0007	0.0007	0.0007	0.0062	0.0071	0.0009	0.0044	0.0114	0.0121	0.0031	0.0031	0.0039	0.0002	0.0028	0.0003	0.0026
Feed Manufacturers	0.0916	0.0904	0.0916	0.0915	0.0050	0.1513	0.0283	0.0073	0.0093	0.0093	0.0047	0.0047	0.0067	0.0068	0.0069	0.0116	0.0466
Flour & Breakfast Cereal Industry	0.0124	0.0125	0.0124	0.0124	0.0113	0.5551	0.9035	0.0774	0.1545	0.1524	0.0063	0.0058	0.0076	0.0018	0.0046	0.0016	0.0188
Misc. Mfgrs.	0.0001	0.0001	0.0001	0.0001	0.0459	0.0001	0.0001	0.9959	0.0005	0.0305	0.0054	0.0019	0.0177	0.0000	0.0001	0.0000	0.0002
Bakeries	0.0006	0.0007	0.0006	0.0006	0.0069	0.0007	0.0007	0.0184	0.9693	0.9603	0.0008	0.0020	0.0014	0.0003	0.0004	0.0004	0.0008
Confectionary Mfgrs.	0.0002	0.0002	0.0002	0.0002	0.0024	0.0000	0.0004	0.0169	0.0070	0.0123	1.0231	1.0524	0.9557	0.0000	0.0004	0.0001	0.0016
Sugar Refineries	0.0014	0.0017	0.0014	0.0015	0.0589	0.0080	0.0067	0.0500	0.0275	0.0286	0.0660	0.0672	0.0628	1.0002	0.8483	0.0003	0.0105
Vegetable Oil Mills	0.0062	0.0062	0.0062	0.0062	0.0025	0.0074	0.0038	0.0017	0.0016	0.0016	0.0019	0.0017	0.0020	0.0006	0.0015	1.0014	0.0070
Misc. Food Ind.	0.0029	0.0176	0.0029	0.0055	0.1711	0.1390	0.0555	0.0688	0.0458	0.0458	0.0558	0.0290	0.0678	0.0008	0.1351	0.0013	0.5716
Soft Drinks Manufacturers	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0035	0.0003	0.0003	0.0003	0.0003	0.0003	0.0001	0.0002	0.0001	0.0003
Distillers	0.0004	0.0004	0.0004	0.0004	0.0006	0.0010	0.0009	0.0005	0.0004	0.0004	0.0005	0.0005	0.0005	0.0001	0.0003	0.0001	0.0009
Breweries	0.0003	0.0003	0.0003	0.0003	0.0007	0.0008	0.0008	0.0006	0.0005	0.0005	0.0007	0.0007	0.0007	0.0001	0.0002	0.0001	0.0006
Wineries	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0001
Leaf Tobacco Processing	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0000	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002	0.0001
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0007	0.0007	0.0007	0.0007	0.0065	0.0007	0.0006	0.0005	0.0006	0.0006	0.0004	0.0004	0.0004	0.0002	0.0003	0.0002	0.0008
Mines, Quarries & Oil Wells	0.0139	0.0139	0.0139	0.0139	0.0166	0.0139	0.0136	0.0198	0.0149	0.0151	0.0164	0.0164	0.0165	0.0097	0.0111	0.0052	0.0155
Manufacturing Except Food	0.1995	0.2004	0.1995	0.1997	0.2615	0.2136	0.2093	0.3158	0.2228	0.2266	0.2582	0.2578	0.2583	0.1000	0.1284	0.0650	0.2327
Communications	0.0097	0.0098	0.0097	0.0097	0.0161	0.0147	0.0146	0.0143	0.0139	0.0139	0.0161	0.0161	0.0159	0.0051	0.0068	0.0044	0.0132
Transportation & Storage	0.0444	0.0448	0.0444	0.0445	0.0605	0.1277	0.1332	0.0640	0.0678	0.0676	0.0581	0.0576	0.0583	0.0267	0.0341	0.0325	0.0616
Elec. Power, Gas, Other Utilities	0.0126	0.0126	0.0126	0.0126	0.0107	0.0116	0.0117	0.0121	0.0127	0.0127	0.0108	0.0108	0.0109	0.0067	0.0073	0.0074	0.0112
Wholesale Trade	0.0457	0.0456	0.0457	0.0457	0.0591	0.0400	0.0398	0.0418	0.0503	0.0439	0.0390	0.0390	0.0392	0.0271	0.0292	0.0160	0.0419
Retail Trade	0.0165	0.0165	0.0165	0.0165	0.0133	0.0128	0.0137	0.0140	0.0153	0.0153	0.0128	0.0127	0.0129	0.0048	0.0065	0.0050	0.0150
Fin., Ins., Real Estate	0.0478	0.0476	0.0478	0.0478	0.0349	0.0291	0.0291	0.0375	0.0383	0.0381	0.0355	0.0356	0.0357	0.0193	0.0211	0.0124	0.0382
Community Bus., Personal Serv.	0.0188	0.0191	0.0188	0.0188	0.0445	0.0344	0.0337	0.0304	0.0427	0.0425	0.0449	0.0449	0.0443	0.0089	0.0152	0.0091	0.0325
Transportation Margins	0.0277	0.0278	0.0277	0.0277	0.0337	0.0684	0.0717	0.0381	0.0421	0.0420	0.0329	0.0327	0.0331	0.0178	0.0209	0.0255	0.0333
Construction	0.0265	0.0263	0.0265	0.0264	0.0140	0.0176	0.0181	0.0142	0.0148	0.0148	0.0141	0.0141	0.0144	0.0090	0.0098	0.0070	0.0195
Oper. Office, Lab & Food	0.0708	0.0704	0.0708	0.0707	0.0498	0.0568	0.0583	0.0559	0.0567	0.0567	0.0501	0.0502	0.0510	0.0238	0.0273	0.0256	0.0570
Travel & Advertising Promotion	0.0127	0.0140	0.0127	0.0126	0.0027	0.0703	0.0809	0.0747	0.0571	0.0576	0.0919	0.0915	0.0895	0.0000	0.0238	0.0127	0.0623
Multiplier	1.7418	1.6456	1.7418	1.7422	1.9988	2.0901	2.0855	2.0717	2.0337	2.0376	1.9438	1.9429	1.9638	1.3633	1.4599	1.3804	1.8653

(continued)

Table 3c (continued)

	Commodity																
	Prepared Cake & Similar Mixes	Beet Pulp	Soups, Dried & Soup Mixes and Bases	Coffee, Roasted, Ground, Prepared	Tea	Potato Chips & Similar Products	Misc. Food Nes	Softdrink Concentrates & Syrup	Carbonated Bev. Soft Drinks	Soups Canned	Pickles, Relishes, Other Sauces	Vinegar	Other Food Preparations	Fish Products	Mustard Mayonnaise	Honey and Beeswax	Malt, Malt Flour & Wheat Starch
Agriculture	[illegible]	0.0700	[illegible]	[illegible]	[illegible]	[illegible]	0.0799	0.0108	0.0175	0.1380	0.1430	0.1381	[illegible]	0.0131	0.3700	1.0287	[illegible]
Forestry	[illegible]	0.0040	[illegible]	0.0085	[illegible]	0.0092	0.0111	0.0076	0.0074	0.0137	0.0134	0.0137	[illegible]	0.0046	0.0108	0.0115	[illegible]
Slaughtering & Meat Processors	[illegible]	0.0013	0.0184	0.0156	0.0157	0.0155	[illegible]	0.0045	0.0035	0.0241	0.0285	0.0241	0.0342	0.0084	0.0113	0.0071	0.0158
Poultry Processors	[illegible]	0.0001	0.0005	0.0017	0.0017	0.0017	0.0019	0.0007	0.0005	0.0119	0.0191	0.0119	0.0191	0.0022	0.0021	0.0003	0.0017
Dairy Factories	0.0081	0.0007	0.0111	0.0109	0.0115	0.0115	0.0408	0.0027	0.0017	0.0074	0.0160	0.0074	0.0364	0.0020	0.5925	0.0108	0.0115
Fish Products Industry	[illegible]	0.0002	0.0016	0.0016	0.0017	0.0017	0.0017	0.0006	0.0005	0.0010	0.0010	0.0010	0.0010	1.0266	0.0012	0.0012	0.0017
Fruit and Veg. Processors	0.0235	0.0002	0.1098	0.0044	0.0047	0.0040	[illegible]	0.0023	0.0009	1.0278	0.9485	1.0283	0.5003	0.0013	0.1051	0.0008	0.0047
Feed Manufacturers	0.0156	0.0008	0.0070	0.0062	0.0063	0.0063	0.0175	0.0022	0.0017	0.0134	0.0138	0.0134	0.0169	0.0045	0.0330	0.0093	0.0074
Flour & Breakfast Cereal Industry	0.3449	0.0018	0.0023	0.0231	0.0245	0.0247	0.0229	0.0033	0.0009	0.0028	0.0042	0.0028	0.0046	0.0009	0.0129	0.0125	0.0258
Bisc. Mfgrs.	0.0002	0.0000	0.0002	0.0002	0.0003	0.0056	0.0010	0.0001	0.0001	0.0002	0.0002	0.0002	0.0057	0.0001	0.0004	0.0001	0.0003
Bakeries	[illegible]	0.0003	0.0009	0.0009	[illegible]	0.0009	0.0009	0.0008	0.0008	0.0010	0.0016	0.0016	0.0010	0.0027	0.0009	0.0007	0.0009
Confectionary Mfgrs.	0.0041	0.0000	0.0027	0.0027	0.0028	0.0043	0.0350	0.0005	0.0003	0.0006	0.0007	0.0006	0.0008	0.0002	0.0153	0.0002	[illegible]
Sugar Refineries	0.0143	1.0002	0.0190	0.0175	0.0190	0.0188	0.0191	0.0795	0.0804	0.0312	0.0299	0.0312	0.0288	0.0004	0.0132	0.0017	0.0165
Vegetable Oil Mills	[illegible]	0.0006	0.0070	0.0072	0.0076	0.0076	0.0074	0.0013	0.0005	0.0015	0.0019	0.0015	0.0020	0.0007	0.0049	0.0062	0.0077
Misc. Food Ind.	0.6679	0.0008	0.9713	1.0203	1.0814	1.0740	0.9293	0.1277	0.0167	0.0117	0.0731	0.0111	0.0534	0.0022	0.3739	0.0215	1.0769
Soft Drinks Manufacturers	[illegible]	0.0001	0.0003	0.0007	[illegible]	0.0003	0.0005	0.9730	1.0854	0.0005	0.0005	0.0005	0.0162	0.0005	0.0005	[illegible]	0.0003
Distillers	0.0012	0.0001	0.0015	0.0014	0.0015	0.0014	0.0013	0.0009	0.0009	0.0005	0.0005	0.0005	0.0005	0.0005	0.0008	0.0004	0.0015
Breweries	[illegible]	0.0001	0.0009	0.0009	[illegible]	0.0009	0.0025	0.0008	0.0049	0.0005	0.0006	0.0005	0.0005	0.0002	0.0006	0.0007	[illegible]
Wineries	0.0001	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0001	0.0000	0.0001
Leaf Tobacco Processing	0.0002	0.0000	0.0002	0.0002	0.0002	0.0002	0.0001	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	0.0015	0.0002	0.0000	0.0002
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0008	0.0002	0.0009	0.0005	0.0009	0.0009	0.0009	0.0004	0.0004	0.0007	0.0007	0.0007	0.0007	0.3751	0.0007	0.0007	0.0009
Mines, Quarries & Oil Wells	0.0153	0.0097	0.0177	0.0164	0.0169	0.0170	0.0189	0.0131	0.0127	0.0240	0.0234	0.0240	0.0230	0.0161	0.0171	0.0143	0.0169
Manufacturing Except Food	0.2441	0.1600	0.2742	0.2542	0.2625	0.2628	0.2975	0.2070	0.2006	0.3670	0.3582	0.3671	0.3529	0.2308	0.2556	0.2077	0.2623
Communications	0.0157	0.0051	0.0163	0.0173	0.0164	0.0164	0.0162	0.0175	0.0177	0.0155	0.0155	0.0155	0.0153	0.0116	0.0142	0.0098	0.0164
Transportation & Storage	0.0951	0.0267	0.0757	0.0750	0.0770	0.0769	0.0748	0.0510	0.0480	0.0644	0.0649	0.0643	0.0635	0.0627	0.0628	0.0451	0.0771
Elec. Power, Gas, Other Utilities	0.0107	0.0067	0.0101	0.0104	0.0100	0.0100	0.0105	0.0090	0.0089	0.0116	0.0115	0.0116	0.0118	0.0097	0.0128	0.0126	0.0100
Wholesale Trade	0.0395	0.0271	0.0393	0.0372	0.0384	0.0384	0.0390	0.0295	0.0285	0.0475	0.0470	0.0475	0.0465	0.0295	0.0421	0.0456	0.0384
Retail Trade	0.0152	0.0048	0.0148	0.0161	0.0137	0.0137	0.0145	0.0130	0.0129	0.0240	0.0239	0.0240	0.0230	0.0118	0.0161	0.0165	0.0137
Fin., Ins., Real Estate	0.0299	0.0193	0.0301	0.0324	0.0295	0.0295	0.0307	0.0363	0.0371	0.0357	0.0355	0.0357	0.0363	0.0295	0.0382	0.0474	0.0295
Community Bus., Personal Serv.	0.0402	0.0099	0.0444	0.0440	0.0448	0.0447	0.0435	0.0464	0.0466	0.0406	0.0406	0.0406	0.0398	0.0273	0.0372	0.0194	0.0448
Transportation Margins	0.0496	0.0178	0.0383	0.0373	0.0383	0.0383	0.0380	0.0242	0.0225	0.0381	0.0381	0.0381	0.0375	0.0277	0.0358	0.0279	0.0384
Construction	0.0153	0.0090	0.0135	0.0135	0.0132	0.0132	0.0139	0.0132	0.0132	0.0161	0.0161	0.0161	0.0166	0.0163	0.0189	0.0262	0.0132
Oper. Office, Lab & Food	0.0504	0.0238	0.0457	0.0456	0.0447	0.0448	0.0470	0.0398	0.0392	0.0542	0.0540	0.0542	0.0556	0.0548	0.0620	0.0703	0.0447
Travel & Advertising Promotion	0.0899	0.0099	0.1031	0.1030	0.1069	0.1066	0.0494	0.1236	0.1257	0.0706	0.0718	0.0706	0.0688	0.0230	0.0626	0.0146	0.1067
Multiplier	1.3438	1.4092	1.9713	1.9347	1.9569	1.9571	1.9818	1.8499	1.8378	2.0981	2.0977	2.0981	2.1208	2.0005	2.2258	1.7517	1.9571

(continued)

Table 3c (continued)

	Commodity																
	Alcoholic Beverages Distilled	Alcohol, Natural Ethyl	Brewers & Distillers' Grains	Ale, Beer, Stout & Porter	Wines	Tobacco Prepared, Unmanufactured	Cigarettes	Tobacco Mfg. Ex. Cigarettes	Tobacco Raw	Veg. Oils & Fats Crude	Feeds of Animal Origin Nes	Primary or Concentrated Feeds	Feeds for Commercial Livestock	Feeds, Grain Origin Nes	Feeds of Veg. Origin Nes	Pet Feeds	Infant & Junior Foods Canned
Agriculture	0.0128	0.0138	0.0169	0.0134	0.0050	0.5163	0.3143	0.3143	1.0554	0.1286	0.6382	0.1251	0.1283	0.1981	0.0696	0.1997	0.1588
Forestry	0.0078	0.0078	0.0085	0.0095	0.0092	0.0099	0.0109	0.0109	0.0114	0.0029	0.0099	0.0072	0.0072	0.0081	0.0065	0.0078	0.0135
Slaughtering & Meat Processors	0.0044	0.0044	0.0070	0.0044	0.0034	0.0089	0.0061	0.0061	0.0070	0.0020	1.0636	0.0541	0.0556	0.0278	0.0396	0.2058	0.0670
Poultry Processors	0.0007	0.0007	0.0008	0.0006	0.0005	0.0016	0.0008	0.0008	0.0003	0.0002	0.0005	0.0005	0.0005	0.0004	0.0005	0.0006	0.0115
Dairy Factories	0.0018	0.0018	0.0020	0.0023	0.0016	0.0022	0.0018	0.0018	0.0021	0.0007	0.0036	0.0075	0.0075	0.0046	0.0062	0.0072	0.0072
Fish Products Industry	0.0008	0.0008	0.0011	0.0005	0.0009	0.0060	0.0013	0.0013	0.0012	0.0004	0.0039	0.0115	0.0113	0.0057	0.0083	0.0094	0.0011
Fruit and Veg. Processors	0.0011	0.0011	0.0014	0.0010	0.0033	0.0008	0.0007	0.0007	0.0007	0.0003	0.0010	0.0023	0.0023	0.0019	0.0018	0.0023	0.9888
Feed Manufacturers	0.0021	0.0022	0.0374	0.0018	0.0089	0.0728	0.0286	0.0286	0.0916	0.0116	0.1273	1.0923	1.0742	0.5146	0.7832	0.8432	0.0152
Flour & Breakfast Cereal Industry	0.0009	0.0009	0.0061	0.0082	0.0014	0.0096	0.0040	0.0040	0.0124	0.0016	0.0101	0.0462	0.0604	0.5577	0.0218	0.0446	0.0031
Misc. Mfgrs.	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002
Bakeries	0.0011	0.0011	0.0010	0.0008	0.0008	0.0014	0.0012	0.0012	0.0006	0.0004	0.0008	0.0007	0.0007	0.0007	0.0007	0.0008	0.0010
Confectionary Mfgrs.	0.0002	0.0002	0.0004	0.0003	0.0001	0.0002	0.0001	0.0001	0.0002	0.0001	0.0003	0.0009	0.0009	0.0006	0.0006	0.0010	0.0006
Sugar Refineries	0.0034	0.0035	0.0044	0.0018	0.0100	0.0012	0.0021	0.0021	0.0014	0.0003	0.0022	0.0112	0.0111	0.0085	0.0081	0.0104	0.0301
Vegetable Oil Mills	0.0005	0.0005	0.0070	0.0009	0.0008	0.0051	0.0022	0.0022	0.0062	1.0011	0.0145	0.0567	0.0558	0.0279	0.0407	0.0456	0.0015
Misc. Food Ind.	0.0150	0.0148	0.1255	0.0780	0.0022	0.0029	0.0019	0.0019	0.0029	0.0016	0.0064	0.0241	0.0238	0.0154	0.0174	0.1145	0.0109
Soft Drinks Manufacturers	0.0004	0.0004	0.0004	0.0004	0.0003	0.0004	0.0004	0.0004	0.0003	0.0001	0.0003	0.0005	0.0005	0.0003	0.0003	0.0003	0.0005
Distillers	1.0273	1.0150	0.5904	0.0007	0.0053	0.0005	0.0006	0.0006	0.0004	0.0001	0.0006	0.0034	0.0033	0.0020	0.0025	0.0028	0.0005
Breweries	0.0006	0.0006	0.5107	1.0030	0.0006	0.0002	0.0007	0.0007	0.0003	0.0001	0.0004	0.0019	0.0019	0.0013	0.0015	0.0016	0.0005
Wineries	0.0006	0.0129	0.0002	0.0001	1.0198	0.0000	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Leaf Tobacco Processing	0.0003	0.0003	0.0002	0.0000	0.0002	1.0009	0.3090	0.3090	0.0000	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0011	1.0011	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0005	0.0005	0.0007	0.0005	0.0005	0.0010	0.0007	0.0007	0.0007	0.0002	0.0018	0.0061	0.0060	0.0031	0.0044	0.0049	0.0007
Mines, Quarries & Oil Wells	0.0143	0.0143	0.0151	0.0163	0.0154	0.0127	0.0166	0.0166	0.0139	0.0052	0.0145	0.0136	0.0136	0.0135	0.0120	0.0140	0.0236
Manufacturing Except Food	0.2131	0.2134	0.2317	0.2637	0.2431	0.1798	0.2709	0.2709	0.1995	0.0650	0.2029	0.1749	0.1755	0.1917	0.1595	0.1804	0.3607
Communications	0.0131	0.0131	0.0149	0.0181	0.0152	0.0091	0.0148	0.0148	0.0097	0.0044	0.0134	0.0119	0.0119	0.0135	0.0175	0.0125	0.0154
Transportation & Storage	0.0496	0.0496	0.0549	0.0513	0.0407	0.0528	0.0477	0.0477	0.0444	0.0325	0.0559	0.1272	0.1271	0.1312	0.1114	0.1123	0.0640
Elec. Power, Gas, Other Utilities	0.0084	0.0084	0.0099	0.0122	0.0083	0.0113	0.0095	0.0095	0.0120	0.0074	0.0136	0.0130	0.0130	0.0123	0.0119	0.0128	0.0117
Wholesale Trade	0.0283	0.0286	0.0295	0.0265	0.0495	0.0393	0.0280	0.0280	0.0457	0.0160	0.0509	0.0547	0.0546	0.0552	0.3402	0.0526	0.0476
Retail Trade	0.0109	0.0109	0.0118	0.0126	0.0110	0.0146	0.0131	0.0131	0.0165	0.0050	0.0462	0.0138	0.0138	0.0137	0.0137	0.0187	0.0249
Fin., Ins., Real Estate	0.0223	0.0233	0.0247	0.0274	0.0240	0.0466	0.0431	0.0431	0.0478	0.0124	0.0399	0.0283	0.0283	0.0290	0.0389	0.0302	0.0359
Community Bus., Personal Serv.	0.0500	0.0503	0.0577	0.0607	0.0395	0.0385	0.0418	0.0418	0.0188	0.0091	0.0249	0.0239	0.0240	0.0291	0.0310	0.0259	0.0400
Transportation Margins	0.0290	0.0290	0.0476	0.0183	0.0251	0.0307	0.0243	0.0243	0.0277	0.0255	0.0370	0.0653	0.0654	0.0691	0.0523	0.0587	0.0380
Construction	0.0106	0.0106	0.0119	0.0136	0.0123	0.0242	0.0201	0.0201	0.0265	0.0070	0.0224	0.0162	0.0162	0.0173	0.0156	0.0169	0.0164
Oper. Office, Lab & Food	0.0444	0.0444	0.0456	0.0405	0.0409	0.0667	0.0489	0.0489	0.0708	0.0256	0.0708	0.0564	0.0564	0.0575	0.0552	0.0576	0.0548
Travel & Advertising Promotion	0.0912	0.0912	0.1026	0.1300	0.0893	0.0147	0.0893	0.0893	0.0127	0.0127	0.0251	0.0319	0.0324	0.0506	0.0437	0.0377	0.0688
Multiplier	1.6742	1.6755	1.7561	1.8609	1.7779	2.4701	2.3568	2.3568	1.7418	1.3803	2.5061	2.0833	2.0834	2.0625	1.9398	2.1158	2.1151

(continued)

Table 3c (continued)

	Commodity																
	Hops Including Lupulin	Hay Forage & Straw	Hides & Skins, Raw Nec	Mink Skins, Ranch & Undressed	Wool in Grease	Serv. Incidental to Ag. & Forestry	Forestry Prod.	Fishing & Trapping Prod.	Textile Products	Knitted Products & Clothing	Lumber, Sawmill, Other Wood Products	Furniture and Fixtures	Paper & Paper Products	Printing & Publishing	Metallic Ores & Concentrates	Minerals Fuels	Nor. Metallic Minerals
Agriculture	1.0554	1.0041	0.5885	1.0554	1.0554	1.0114	0.0703	0.0027	0.0101	0.0090	0.0085	0.0085	0.0085	0.0085	0.0049	0.0045	0.0048
Forestry	0.0114	0.0111	0.0064	0.0114	0.0114	0.0272	1.0994	0.0079	0.0470	0.0482	0.0491	0.0484	0.0485	0.0486	0.0092	0.0045	0.0060
Slaughtering & Meat Processors	0.0070	0.0096	0.0068	0.0070	0.0070	0.0068	0.0052	0.0012	0.0037	0.0038	0.0038	0.0038	0.0038	0.0038	0.0028	0.0027	0.0027
Poultry Processors	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0006	0.0002	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
Dairy Factories	0.0021	0.0024	0.0029	0.0021	0.0021	0.0020	0.0028	0.0007	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0015	0.0015	0.0015
Fish Products Industry	0.0012	0.0018	0.0007	0.0012	0.0012	0.0011	0.0006	0.0001	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0010
Fruit and Veg. Processors	0.0007	0.0008	0.0005	0.0007	0.0007	0.0007	0.0011	0.0002	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Feed Manufacturers	0.0916	0.1477	0.0516	0.0916	0.0916	0.0879	0.0147	0.0064	0.0015	0.0014	0.0014	0.0014	0.0014	0.0014	0.0007	0.0006	0.0006
Flour & Breakfast Cereal Industry	0.0124	0.0134	0.0079	0.0124	0.0124	0.0119	0.0018	0.0002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0004	0.0004	0.0005
Misc. Mfgrs.	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0000	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001
Bakeries	0.0006	0.0007	0.0004	0.0006	0.0006	0.0007	0.0013	0.0003	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007
Confectionary Mfgrs.	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001
Sugar Refineries	0.0014	0.0020	0.0013	0.0014	0.0014	0.0014	0.0006	0.0001	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0002	0.0003
Vegetable Oil Mills	0.0062	0.0090	0.0032	0.0062	0.0062	0.0060	0.0011	0.0002	0.0011	0.0011	0.0011	0.0011	0.0011	0.0011	0.0003	0.0003	0.0003
Misc. Food Ind.	0.0029	0.0041	0.0042	0.0029	0.0029	0.0028	0.0015	0.0004	0.0013	0.0013	0.0013	0.0013	0.0015	0.0013	0.0008	0.0008	0.0034
Soft Drinks Manufacturers	0.0003	0.0003	0.0002	0.0003	0.0003	0.0003	0.0006	0.0001	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Distillers	0.0004	0.0005	0.0003	0.0004	0.0004	0.0004	0.0003	0.0001	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0001	0.0001	0.0001
Breweries	0.0003	0.0004	0.0003	0.0003	0.0003	0.0003	0.0002	0.0001	0.0003	0.0003	0.0003	0.0003	0.0008	0.0003	0.0001	0.0001	0.0001
Wineries	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Leaf Tobacco Processing	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0007	0.0010	0.0012	0.0007	0.0007	0.0007	0.0005	1.0192	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0003	0.0002	0.0005
Mines, Quarries & Oil Wells	0.0139	0.0138	0.0147	0.0139	0.0139	0.0137	0.0117	0.0154	0.0768	0.0787	0.0793	0.0791	0.0793	0.0794	0.9326	1.0351	1.0005
Manufacturing Except Food	0.1905	0.1981	0.2113	0.1995	0.1995	0.1966	0.1753	0.2223	1.3579	1.3939	1.4046	1.4008	1.4043	1.4066	0.2594	0.1216	0.1641
Communications	0.0097	0.0098	0.0163	0.0097	0.0097	0.0103	0.0106	0.0061	0.0152	0.0147	0.0146	0.0146	0.0146	0.0145	0.0087	0.0080	0.0082
Transportation & Storage	0.0444	0.0489	0.0516	0.0444	0.0444	0.0446	0.0664	0.0337	0.0560	0.0563	0.0565	0.0565	0.0565	0.0564	0.0320	0.0291	0.0301
Elec. Power, Gas, Other Utilities	0.0126	0.0126	0.0143	0.0126	0.0126	0.0127	0.0071	0.0041	0.0183	0.0183	0.0183	0.0183	0.0183	0.0184	0.0203	0.0205	0.0204
Wholesale Trade	0.0457	0.0463	0.0447	0.0457	0.0457	0.0448	0.0333	0.0246	0.0403	0.0375	0.0388	0.0422	0.0388	0.0377	0.0223	0.0206	0.0211
Retail Trade	0.0165	0.0164	0.0162	0.0165	0.0165	0.0454	0.0204	0.0106	0.0467	0.0221	0.0123	0.0123	0.0123	0.0123	0.0101	0.0098	0.0099
Fin., Ins., Real Estate	0.0478	0.0467	0.0478	0.0478	0.0478	0.0495	0.0952	0.0230	0.0397	0.0386	0.0382	0.0383	0.0382	0.0382	0.0778	0.0825	0.0809
Community Bus., Personal Serv.	0.0188	0.0190	0.0257	0.0188	0.0188	0.0197	0.0988	0.0156	0.0329	0.0329	0.0329	0.0330	0.0329	0.0329	0.0341	0.0343	0.0343
Transportation Margins	0.0277	0.0297	0.0321	0.0277	0.0277	0.0273	0.0170	0.0136	0.0325	0.0329	0.0330	0.0330	0.0330	0.0330	0.0158	0.0137	0.0144
Construction	0.0265	0.0259	0.0225	0.0265	0.0265	0.0265	0.0389	0.0101	0.0181	0.0181	0.0181	0.0180	0.0181	0.0181	0.0227	0.0232	0.0230
Oper. Office, Lab & Food	0.0708	0.0700	0.0695	0.0708	0.0708	0.0715	0.1382	0.0177	0.0615	0.0616	0.0617	0.0616	0.0616	0.0616	0.0706	0.0717	0.0713
Travel & Advertising Promotion	0.0127	0.0137	0.0200	0.0127	0.0127	0.0135	0.0185	0.0069	0.0383	0.0382	0.0382	0.0383	0.0383	0.0382	0.0166	0.0140	0.0150
Multiplier	1.7418	1.7664	2.3178	1.7418	1.7418	1.7932	1.8543	1.4594	1.9095	1.9151	1.9183	1.9171	1.9182	1.9187	1.5467	1.5022	1.5172

(continued)

Table 3c (continued)

	Commodity																
	Services Incidental to Mining	Primary Metal Products	Metal Fabricated Products	Non Metallic Minerals Products	Pet & Coal Products	Chemicals, Chemical Products	Nitrogen Function Compounds Mes	Autos, Trucks, Other Transp. Equipment	Transportation & Storage	Elec & Communications Products	Communication Services	Other Utilities	Misc. Manuf. Products	Non Residential Construction	Repair Construction	Rubber, Leather, Plastic Products	Wholesale Margin
Agriculture	0.0045	0.0085	0.0085	0.0085	0.0084	0.0137	0.0141	0.0085	0.0048	0.0083	0.0034	0.0018	0.0088	0.0078	0.0078	0.0109	0.0156
Forestry	0.0045	0.0486	0.0485	0.0484	0.0481	0.0479	0.0468	0.0484	0.0095	0.0472	0.0036	0.0029	0.0478	0.0195	0.0195	0.0483	0.0152
Slaughtering & Meat Processors	0.0028	0.0038	0.0038	0.0038	0.0038	0.0110	0.0037	0.0038	0.0024	0.0037	0.0019	0.0010	0.0040	0.0034	0.0034	0.0079	0.0071
Poultry Processors	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003	0.0004	0.0003	0.0001	0.0008	0.0005	0.0005	0.0004	0.0015
Dairy Factories	0.0015	0.0016	0.0016	0.0016	0.0016	0.0017	0.0016	0.0016	0.0014	0.0016	0.0010	0.0005	0.0016	0.0019	0.0019	0.0016	0.0107
Fish Products Industry	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004	0.0003	0.0003	0.0003	0.0003	0.0002	0.0001	0.0004	0.0004	0.0004	0.0004	0.0018
Fruit and Veg. Processors	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0005	0.0006	0.0004	0.0002	0.0006	0.0007	0.0007	0.0006	0.0024
Feed Manufacturers	0.0006	0.0014	0.0013	0.0014	0.0014	0.0026	0.0019	0.0014	0.0009	0.0014	0.0004	0.0002	0.0014	0.0012	0.0012	0.0016	0.0059
Flour & Breakfast Cereal Industry	0.0004	0.0005	0.0005	0.0005	0.0005	0.0006	0.0005	0.0005	0.0003	0.0005	0.0002	0.0001	0.0005	0.0005	0.0005	0.0005	0.0022
Misc. Mfgrs.	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0001	0.0001	0.0001	0.0001	0.0004
Bakeries	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0006	0.0007	0.0005	0.0003	0.0007	0.0008	0.0008	0.0007	0.0033
Confectionary Mfgrs.	0.0001	0.0001	0.0001	0.0001	0.0001	0.0005	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0006
Sugar Refineries	0.0002	0.0003	0.0003	0.0003	0.0003	0.0004	0.0003	0.0003	0.0002	0.0003	0.0001	0.0001	0.0003	0.0003	0.0003	0.0003	0.0007
Vegetable Oil Mills	0.0003	0.0011	0.0011	0.0011	0.0011	0.0073	0.0474	0.0011	0.0002	0.0011	0.0001	0.0001	0.0011	0.0005	0.0005	0.0012	0.0008
Misc. Food Ind.	0.0008	0.0013	0.0013	0.0013	0.0013	0.0051	0.0013	0.0013	0.0007	0.0013	0.0004	0.0003	0.0013	0.0011	0.0011	0.0013	0.0052
Soft Drinks Manufacturers	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0001	0.0003	0.0003	0.0003	0.0003	0.0007
Distillers	0.0001	0.0004	0.0004	0.0004	0.0004	0.0008	0.0004	0.0004	0.0001	0.0004	0.0001	0.0001	0.0004	0.0002	0.0002	0.0004	0.0004
Breweries	0.0001	0.0003	0.0003	0.0003	0.0003	0.0006	0.0003	0.0003	0.0002	0.0003	0.0001	0.0001	0.0003	0.0002	0.0002	0.0003	0.0008
Wineries	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002
Leaf Tobacco Processing	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0007
Fishing, Hunting, & Trapping	0.0002	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0003	0.0010	0.0002	0.0001	0.0011	0.0005	0.0005	0.0010	0.0009
Mines, Quarries & Oil Wells	1.0354	0.0799	0.0793	0.0824	0.0857	0.0784	0.0761	0.0791	0.0116	0.0772	0.0060	0.0097	0.0782	0.0411	0.0411	0.0790	0.0171
Manufacturing Except Food	0.1211	1.4069	1.4032	1.4010	1.3919	1.3855	1.3453	1.4004	0.1623	1.3664	0.0897	0.0673	1.3838	0.4851	0.4851	1.3982	0.2836
Communications	0.0080	0.0145	0.0146	0.0145	0.0144	0.0145	0.0141	0.0145	0.0181	0.0459	1.0317	0.0066	0.0148	0.0113	0.0113	0.0146	0.0286
Transportation & Storage	0.0291	0.0564	0.0565	0.0564	0.0560	0.0564	0.0553	0.0622	1.0918	0.0571	0.0790	0.0142	0.0567	0.0555	0.0555	0.0565	0.0735
Elec. Power, Gas, Other Utilities	0.0205	0.0184	0.0183	0.0183	0.0233	0.0182	0.0179	0.0183	0.0079	0.0179	0.0042	0.9999	0.0182	0.0083	0.0083	0.0183	0.0103
Wholesale Trade	0.0205	0.0371	0.0400	0.0388	0.0368	0.0371	0.0361	0.0371	0.0319	0.0366	0.0119	0.0091	0.0547	0.0649	0.0649	0.0408	0.8716
Retail Trade	0.0098	0.0123	0.0123	0.0123	0.0122	0.0125	0.0119	0.0123	0.0193	0.0123	0.0121	0.0048	0.0123	0.0247	0.0247	0.0124	0.0136
Fin., Ins., Real Estate	0.0826	0.0382	0.0382	0.0383	0.0385	0.0380	0.0370	0.0381	0.0357	0.0378	0.0278	0.0393	0.0386	0.0338	0.0338	0.0383	0.0604
Community Bus., Personal Serv.	0.0343	0.0329	0.0329	0.0329	0.0328	0.0327	0.0318	0.0329	0.0323	0.0329	0.0346	0.0155	0.0331	0.0458	0.0458	0.0329	0.0463
Transportation Margins	0.0137	0.0330	0.0330	0.0330	0.0328	0.0330	0.0327	0.0329	0.0165	0.0324	0.0122	0.0064	0.0328	0.0355	0.0355	0.0330	0.0233
Construction	0.0232	0.0181	0.0181	0.0181	0.0183	0.0180	0.0176	0.0183	0.0580	0.0188	0.0411	0.0598	0.0180	1.0114	1.0114	0.0181	0.0150
Oper. Office, Lab & Food	0.0717	0.0617	0.0616	0.0617	0.0615	0.0614	0.0600	0.0616	0.0540	0.0608	0.0344	0.0198	0.0615	0.0550	0.0550	0.0616	0.0540
Travel & Advertising Promotion	0.0140	0.0382	0.0383	0.0382	0.0379	0.0382	0.0370	0.0381	0.0198	0.0374	0.0143	0.0097	0.0388	0.0235	0.0235	0.0382	0.0683
Multiplier	1.5020	1.9189	1.9179	1.9171	1.9129	1.9176	1.8943	1.9170	1.5824	1.9031	1.4120	1.2703	1.9131	1.9359	1.9359	1.9198	1.6414

(continued)

Table 3c (continued)

	Commodity												
	Retail Margin	Other Finance, Ins & Real Estate	Business Services	Personal & Other Misc. Services	Transportation Margin	Operating Office & Lab & Food	Travel, Advertisement & Promotion	Imputed Rent, Owner Occupied Dwellings	Machinery & Equipment	Residential Construction	Nursery Stock & Related Mat.	Animal Mat. For Drugs & Perfume	Custom Work Meat & Food
Agriculture	0.0553	0.0038	0.0479	0.0449	0.0116	0.0386	0.0176	0.0025	0.0093	0.0078	1.0554	0.6764	0.3522
Forestry	0.0045	0.0035	0.0081	0.0109	0.0119	0.0224	0.0182	0.0029	0.0476	0.0195	0.0114	0.0100	0.0091
Slaughtering & Meat Processors	0.0034	0.0019	0.0044	0.0510	0.0062	0.0214	0.0111	0.0014	0.0040	0.0034	0.0070	1.1377	0.3457
Poultry Processors	0.0005	0.0003	0.0053	0.0053	0.0008	0.0027	0.0018	0.0002	0.0006	0.0005	0.0003	0.0005	0.0783
Dairy Factories	0.0015	0.0011	0.0128	0.0119	0.0041	0.0147	0.0045	0.0007	0.0024	0.0019	0.0021	0.0033	0.0463
Fish Products Industry	0.0005	0.0002	0.0043	0.0039	0.0006	0.0016	0.0014	0.0002	0.0006	0.0004	0.0012	0.0034	0.1185
Fruit and Veg. Processors	0.0006	0.0004	0.0057	0.0052	0.0015	0.0057	0.0019	0.0003	0.0007	0.0007	0.0007	0.0009	0.0194
Feed Manufacturers	0.0052	0.0005	0.0041	0.0045	0.0016	0.0043	0.0020	0.0003	0.0016	0.0012	0.0916	0.0598	0.2381
Flour & Breakfast Cereal Industry	0.0009	0.0003	0.0051	0.0029	0.0009	0.0032	0.0012	0.0002	0.0007	0.0005	0.0124	0.0087	0.0278
Misc. Mfgrs.	0.0001	0.0002	0.0012	0.0011	0.0003	0.0012	0.0004	0.0001	0.0002	0.0001	0.0001	0.0001	0.0002
Bakeries	0.0008	0.0005	0.0081	0.0073	0.0018	0.0065	0.0026	0.0004	0.0007	0.0008	0.0006	0.0008	0.0851
Confectionary Mfgrs.	0.0001	0.0001	0.0004	0.0004	0.0001	0.0005	0.0002	0.0000	0.0002	0.0001	0.0002	0.0002	0.0104
Sugar Refineries	0.0003	0.0002	0.0018	0.0017	0.0006	0.0024	0.0007	0.0001	0.0003	0.0003	0.0014	0.0016	0.0088
Vegetable Oil Mills	0.0005	0.0001	0.0008	0.0007	0.0004	0.0012	0.0006	0.0001	0.0011	0.0005	0.0062	0.0116	0.0299
Misc. Food Ind.	0.0008	0.0006	0.0051	0.0047	0.0018	0.0064	0.0025	0.0004	0.0028	0.0011	0.0029	0.0051	0.0585
Soft Drinks Manufacturers	0.0003	0.0002	0.0014	0.0022	0.0009	0.0035	0.0008	0.0001	0.0004	0.0003	0.0003	0.0003	0.0186
Distillers	0.0002	0.0001	0.0005	0.0002	0.0002	0.0003	0.0043	0.0001	0.0004	0.0002	0.0004	0.0004	0.0245
Breweries	0.0003	0.0003	0.0009	0.0003	0.0002	0.0003	0.0065	0.0002	0.0004	0.0002	0.0003	0.0003	0.0007
Wineries	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0005
Leaf Tobacco Processing	0.0001	0.0000	0.0001	0.0001	0.0000	0.0001	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001	0.0994
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0003	0.0002	0.0030	0.0028	0.0005	0.0014	0.0012	0.0001	0.0011	0.0005	0.0007	0.0015	0.0438
Mines, Quarries & Oil Wells	0.0083	0.0128	0.0155	0.0119	0.0164	0.0363	0.0280	0.0060	0.0986	0.0411	0.0139	0.0143	0.0145
Manufacturing Except Food	0.1155	0.0884	0.2206	0.1580	0.2506	0.6124	0.4739	0.0719	1.3773	0.4851	0.1995	0.2000	0.2049
Communications	0.0312	0.0159	0.0576	0.0250	0.0172	0.0155	0.0819	0.0156	0.0144	0.0113	0.0097	0.0135	0.0127
Transportation & Storage	0.0417	0.0242	0.0403	0.0480	0.8572	0.0683	0.1813	0.0213	0.0559	0.0555	0.0444	0.0542	0.0713
Elec. Power, Gas, Other Utilities	0.0192	0.0053	0.0090	0.0121	0.0085	0.0116	0.0104	0.0047	0.0184	0.0083	0.0126	0.0136	0.0124
Wholesale Trade	0.0181	0.0145	0.0250	0.0622	0.0492	0.1200	0.0460	0.0103	0.0368	0.0649	0.0457	0.0507	0.0450
Retail Trade	0.9980	0.0133	0.0223	0.1398	0.0313	0.0801	0.0555	0.0063	0.0122	0.0247	0.0165	0.0485	0.0285
Fin., Ins., Real Estate	0.0808	1.0259	0.0561	0.0660	0.0350	0.0365	0.0382	1.0692	0.0390	0.0338	0.0478	0.0408	0.0363
Community Bus., Personal Serv.	0.0423	0.0347	0.9328	0.8357	0.0496	0.1203	0.2699	0.0247	0.0329	0.0458	0.0188	0.0249	0.0282
Transportation Margins	0.0198	0.0146	0.0222	0.0216	0.8178	0.0470	0.0246	0.0141	0.0337	0.0355	0.0277	0.0351	0.0406
Construction	0.0198	0.0924	0.0154	0.0223	0.0478	0.0149	0.0219	0.0909	0.0182	1.0114	0.0265	0.0229	0.0192
Oper. Office, Lab & Food	0.0596	0.0272	0.0564	0.0572	0.2567	1.0510	0.0467	0.0258	0.0618	0.0550	0.0708	0.0718	0.0623
Travel & Advertising Promotion	0.0389	0.0232	0.0429	0.0351	0.0217	0.0312	1.0272	0.0227	0.0378	0.0235	0.0127	0.0246	0.0356
Multiplier	1.5694	1.4079	1.6487	1.6529	2.5050	2.5836	2.5855	1.3938	1.9113	1.9359	1.7418	2.5376	2.2573

Table 3d

Input-Output Total Requirements

Industry	Commodity												
	Cattle, Calves & Milk	Sheep and Lambs	Hogs	Other Livestock	Poultry & Eggs	Poultry Canned	Other Live Animals	Beef, Veal, Mutton & Pork-Fresh & Frozen	Horse Meat Fresh, Chilled or Frozen	Meat Canned	Meat Prepared Canned	Animal Oils and Fats	Agricultural & Wild Products
Agriculture	1.0626	1.0626	1.0626	1.0626	1.0626	1.0784	1.0626	1.0626	0.4158	0.6515	0.6514	0.5623	0.6626
Forestry	0.0060	0.0060	0.0060	0.0060	0.0060	0.0063	0.0060	0.0060	0.0062	0.0077	0.0077	0.0083	0.0060
Slaughtering & Meat Processors	0.0003	0.0003	0.0003	0.0003	0.1151	0.0850	0.0003	0.3563	0.6879	1.1370	1.1366	0.9109	1.1366
Poultry Processors	0.0003	0.0003	0.0003	0.0003	0.0744	0.0850	0.0003	0.0003	0.0007	0.0009	0.0009	0.0282	0.0009
Dairy Factories	0.0029	0.0029	0.0029	0.0029	0.0062	0.0052	0.0029	0.0040	0.0035	0.0049	0.0049	0.0062	0.0049
Fish Products Industry	0.0010	0.0010	0.0010	0.0010	0.0010	0.0011	0.0010	0.0015	0.0013	0.0018	0.0018	0.0017	0.0018
Fruit & Veg. Processors	0.0007	0.0007	0.0007	0.0007	0.0009	0.0024	0.0007	0.0009	0.0007	0.0009	0.0010	0.1741	0.0010
Feed Manufacturers	0.0028	0.0028	0.0028	0.0028	0.0064	0.0049	0.0028	0.0042	0.0372	0.0581	0.0581	0.0507	0.0581
Flour & Breakfast Cereal Ind.	0.0009	0.0009	0.0009	0.0009	0.0020	0.0073	0.0009	0.0013	0.0044	0.0067	0.0067	0.0062	0.0067
Misc. Manufacturers	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Bakeries	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.0006	0.0007
Confectionery Manufacturers	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0001	0.0002	0.0001	0.0002	0.0002	0.0003	0.0002
Sugar Refineries	0.0014	0.0014	0.0014	0.0014	0.0031	0.0023	0.0014	0.0021	0.0069	0.0014	0.0014	0.0060	0.0014
Vegetable Oil Mills	0.0069	0.0069	0.0069	0.0069	0.0153	0.0056	0.0069	0.0052	0.0067	0.0108	0.0108	0.0091	0.0108
Misc. Food Ind.	0.0038	0.0038	0.0038	0.0038	0.0144	0.0053	0.0038	0.0044	0.0057	0.0060	0.0063	0.0183	0.0063
Soft Drinks Manufacturers	0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0003	0.0003	0.0004	0.0004	0.0004	0.0004	0.0004
Distillers	0.0005	0.0005	0.0005	0.0005	0.0009	0.0009	0.0004	0.0004	0.0005	0.0005	0.0005	0.0007	0.0005
Breweries	0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004	0.0003
Wineries	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Leaf Tobacco Processing	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0007	0.0006	0.0008	0.0008	0.0008	0.0008
Mines, Quarries & Oil Wells	0.0136	0.0136	0.0136	0.0136	0.0140	0.0169	0.0136	0.0120	0.0112	0.0131	0.0131	0.0145	0.0131
Manufacturing Except Food	0.1961	0.1961	0.1961	0.1961	0.2301	0.2642	0.1961	0.1762	0.1643	0.1938	0.1939	0.2237	0.2134
Communications	0.0096	0.0096	0.0096	0.0096	0.0189	0.0163	0.0096	0.0160	0.0222	0.0146	0.0146	0.0153	0.0146
Transportation & Storage	0.0392	0.0392	0.0392	0.0392	0.0603	0.0664	0.0392	0.0404	0.0453	0.0486	0.0486	0.0514	0.0486
Elec. Power, Gas, Other Utilities	0.0129	0.0129	0.0129	0.0129	0.0176	0.0172	0.0129	0.0153	0.0165	0.0136	0.0136	0.0136	0.0136
Wholesale Trade	0.0416	0.0416	0.0416	0.0416	0.0591	0.0640	0.0416	0.0405	0.0361	0.0477	0.0477	0.0488	0.0477
Retail Trade	0.0155	0.0155	0.0155	0.0155	0.1966	0.0317	0.0155	0.2786	0.4319	0.0518	0.0518	0.0459	0.0518
Fin., Ins., Real Estate	0.0536	0.0536	0.0536	0.0536	0.0557	0.0498	0.0536	0.0530	0.0529	0.0591	0.0429	0.0416	0.0427
Community Bus., Personal Serv.	0.0205	0.0205	0.0205	0.0205	0.0302	0.0305	0.0205	0.0285	0.0299	0.0270	0.0270	0.0301	0.0270
Transportation Margins	0.0227	0.0227	0.0227	0.0227	0.0338	0.0384	0.0227	0.0255	0.0237	0.0287	0.0287	0.0295	0.0287
Construction	0.0286	0.0286	0.0286	0.0286	0.0250	0.0264	0.0286	0.0209	0.0198	0.0221	0.0221	0.0207	0.0219
Oper. Office, Lab & Food	0.0747	0.0747	0.0747	0.0747	0.0888	0.0939	0.0747	0.0738	0.0728	0.0753	0.0753	0.0747	0.0753
Travel & Advertising Promotion	0.0133	0.0133	0.0133	0.0133	0.0288	0.0288	0.0133	0.0299	0.0329	0.0265	0.0265	0.0359	0.0268
Multiplier	1.7486	1.7486	1.7486	1.7486	2.5002	2.7090	1.7486	2.0590	2.1573	2.4965	2.4965	2.4909	2.4965

Industry	Commodity		
	Agricultural & Wild Products	Fishermen, Farmers & Trappers	Primary Package
Agriculture	0.0625	0.0625	0.0626
Forestry	0.0060	0.0060	0.0060
Slaughtering & Meat Processors	1.1366	1.1366	1.1366
Poultry Processors	0.0009	0.0009	0.0009
Dairy Factories	0.0049	0.0049	0.0057
Fish Products Industry	0.0016	0.0018	0.0025
Fruit & Veg. Processors	0.0932	0.0009	0.0011
Feed Manufacturers	0.0277	0.0581	0.1601
Flour & Breakfast Cereal Ind.	0.0123	0.0067	0.0081
Misc. Manufacturers	0.0002	0.0001	0.0001
Bakeries	0.0007	0.0007	0.0007
Confectionery Manufacturers	0.0015	0.0002	0.0002
Sugar Refineries	0.0084	0.0014	0.0027
Vegetable Oil Mills	0.0081	0.0108	0.0144
Misc. Food Ind.	0.4535	0.0063	0.0082
Soft Drinks Manufacturers	0.0003	0.0004	0.0004
Distillers	0.0007	0.0005	0.0005
Breweries	0.0006	0.0003	0.0003
Wineries	0.0001	0.0000	0.0000
Leaf Tobacco Processing	0.0001	0.0001	0.0001
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0008	0.0008	0.0010
Mines, Quarries & Oil Wells	0.0246	0.0131	0.0165
Manufacturing Except Food	0.1904	0.1938	0.2660
Communications	0.0176	0.0146	0.0156
Transportation & Storage	0.0613	0.0486	0.0580
Elec. Power, Gas, Other Utilities	0.0129	0.0136	0.0142
Wholesale Trade	0.0445	0.0477	0.0518
Retail Trade	0.0272	0.0518	0.0445
Fin., Ins., Real Estate	0.0375	0.0429	0.0424
Community Bus., Personal Serv.	0.0380	0.0270	0.0280
Transportation Margins	0.0310	0.0287	0.0331
Construction	0.0163	0.0221	0.0216
Oper. Office, Lab & Food	0.0626	0.0753	0.0762
Travel & Advertising Promotion	0.0674	0.0265	0.0284
Multiplier	1.9920	2.4965	2.4780

(Continued)

Table 3d (continued)

Industry	Commodity													
	Milk, Whole, Fluid, Unprocessed	Fresh Cream	Butter	Cheese, Cheddar, & Processed	Milk Evaporated	Ice Cream	Other Dairy Products	Rice Unmilled	Wheat Unmilled	Barley, Oats, Rye, Corn, Grain Nes.	Wheat Flour	Fruits, Fresh, Ex. Tropical	Vegetables, Fresh	Veg., Fresh, Frozen, Dried & Preserved
Agriculture	1.0696	0.5445	0.5427	0.5471	0.5517	0.5074	0.5336	0.0	1.0695	1.0670	1.0672	1.0652	1.0686	0.1
Forestry	0.0090	0.0091	0.0091	0.0091	0.0092	0.0090	0.0091	0.0	0.0090	0.0090	0.0088	0.0090	0.0090	0.0
Slaughtering & Meat Processors	0.0063	0.0055	0.0055	0.0266	0.0056	0.0057	0.0060	0.0	0.0063	0.0064	0.0063	0.0063	0.0063	0.0
Poultry Processors	0.0003	0.0007	0.0008	0.0005	0.0005	0.0005	0.0041	0.0	0.0003	0.0003	0.0004	0.0006	0.0003	0.0
Dairy Factories	0.0029	1.1040	1.0993	1.0849	1.1192	1.0209	1.0685	0.0	0.0029	0.0029	0.0038	0.0029	0.0029	0.0
Fish Products Industry	0.0010	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0	0.0010	0.0010	0.0015	0.0052	0.0010	0.0
Fruit & Veg. Processors	0.0007	0.0027	0.0027	0.0027	0.0027	0.0029	0.0035	0.0	0.0007	0.0007	0.0009	0.0007	0.0007	1.0
Feed Manufacturers	0.0928	0.0477	0.0475	0.0480	0.0483	0.0445	0.0468	0.0	0.0929	0.0928	0.0735	0.0925	0.0928	0.0
Flour & Breakfast Cereal Ind.	0.0095	0.0054	0.0054	0.0054	0.0054	0.0058	0.0062	0.0	0.0095	0.0098	0.0080	0.0095	0.0095	0.0
Misc. Manufacturers	0.0001	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0	0.0001	0.0001	0.0001	0.0001	0.0001	0.0
Bakeries	0.0006	0.0008	0.0008	0.0008	0.0008	0.0015	0.0008	0.0	0.0006	0.0006	0.0008	0.0006	0.0006	0.0
Confectionery Manufacturers	0.0001	0.0012	0.0012	0.0012	0.0012	0.0742	0.0013	0.0	0.0001	0.0002	0.0003	0.0001	0.0001	0.0
Sugar Refineries	0.0014	0.0068	0.0068	0.0068	0.0069	0.0130	0.0074	0.0	0.0014	0.0014	0.0071	0.0014	0.0014	0.0
Vegetable Oil Mills	0.0069	0.0038	0.0038	0.0040	0.0039	0.0038	0.0041	0.0	0.0069	0.0070	0.0061	0.0069	0.0069	0.0
Misc. Food Ind.	0.0038	0.0098	0.0102	0.0116	0.0099	0.0331	0.0545	0.0	0.0038	0.0063	0.0078	0.0038	0.0049	0.0
Soft Drinks Manufacturers	0.0003	0.0007	0.0007	0.0007	0.0007	0.0006	0.0007	0.0	0.0003	0.0003	0.0004	0.0003	0.0003	0.0
Distillers	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0	0.0005	0.0005	0.0013	0.0005	0.0005	0.0
Breweries	0.0003	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0	0.0003	0.0003	0.0009	0.0003	0.0003	0.0
Wineries	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0	0.0000	0.0000	0.0001	0.0000	0.0000	0.0
Leaf Tobacco Processing	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0	0.0000	0.0000	0.0001	0.0000	0.0000	0.0
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0	0.0000	0.0000	0.0001	0.0000	0.0000	0.0
Fishing, Hunting, & Trapping	0.0006	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0	0.0006	0.0006	0.0003	0.0020	0.0006	0.0
Mines, Quarries & Oil Wells	0.0136	0.0158	0.0158	0.0158	0.0159	0.0159	0.0160	0.0	0.0136	0.0136	0.0149	0.0136	0.0136	0.0
Manufacturing Except Food	0.1961	0.2483	0.2479	0.2477	0.2500	0.2507	0.2510	0.0	0.1961	0.1963	0.2386	0.1964	0.1962	0.2
Communications	0.0096	0.0147	0.0148	0.0146	0.0144	0.0149	0.0147	0.0	0.0096	0.0096	0.0180	0.0096	0.0096	0.0
Transportation & Storage	0.0392	0.0588	0.0588	0.0586	0.0586	0.0586	0.0593	0.0	0.0392	0.0394	0.0281	0.0394	0.0393	0.0
Elec. Power, Gas, Other Utilities	0.0129	0.0150	0.0150	0.0150	0.0151	0.0147	0.0149	0.0	0.0129	0.0129	0.0140	0.0129	0.0129	0.0
Wholesale Trade	0.0416	0.0564	0.0597	0.0536	0.0433	0.0431	0.0434	0.0	0.0416	0.0416	0.0503	0.0416	0.0416	0.0
Retail Trade	0.0155	0.0161	0.0160	0.0167	0.0161	0.0157	0.0160	0.0	0.0155	0.0155	0.0164	0.0155	0.0155	0.0
Fin., Ins., Real Estate	0.0536	0.0437	0.0438	0.0436	0.0435	0.0429	0.0431	0.0	0.0536	0.0535	0.0428	0.0535	0.0535	0.0
Community Bus., Personal Serv.	0.0205	0.0371	0.0371	0.0369	0.0369	0.0379	0.0373	0.0	0.0205	0.0205	0.0393	0.0205	0.0205	0.0
Transportation Margins	0.0227	0.0363	0.0363	0.0362	0.0366	0.0358	0.0365	0.0	0.0227	0.0228	0.0234	0.0228	0.0227	0.0
Construction	0.0286	0.0211	0.0210	0.0211	0.0212	0.0203	0.0208	0.0	0.0286	0.0286	0.0211	0.0286	0.0286	0.0
Oper. Office, Lab & Food	0.0747	0.0839	0.0838	0.0837	0.0842	0.0811	0.0827	0.0	0.0747	0.0746	0.0753	0.0746	0.0746	0.0
Travel & Advertising Promotion	0.0133	0.0400	0.0401	0.0397	0.0395	0.0452	0.0427	0.0	0.0133	0.0135	0.0780	0.0133	0.0134	0.0
Multiplier	1.7486	2.4327	2.4294	2.4354	2.4441	2.4025	2.4278	0.0	1.7486	1.7496	1.7480	1.7502	1.7488	1.7

Table 3d (continued)

Industry	Commodity: Eggs in the Shell	Nuts, Edible, Not Shelled	Seeds Ex. Oil and Seed Grades	Oil Seeds, Nuts, and Kernels	Nuts, Kernels and Seeds Prepared	Meal & Flour of Other Cereals & Veg.	Breakfast Cereal Products	Biscuits	Bread & Rolls	Other Baking Products	Cocoa and Chocolate	Chocolate Confectionery	Other Confectionery	Sugar	Molasses, Sugar Refinery Products	Oilseed, Meal & Cake	Maple Sugar & Syrup
Agriculture	1.0689	1.0520	1.0696	1.0672	0.0637	0.3049	0.4453	0.0581	0.1094	0.1128	0.0556	0.0537	0.0787	0.0463	0.0598	0.1912	0.0451
Forestry	0.0090	0.0090	0.0090	0.0090	0.0027	0.0086	0.0087	0.0074	0.0075	0.0076	0.0076	0.0076	0.0077	0.0028	0.0041	0.0051	0.0086
Slaughtering & Meat Processors	0.0063	0.0065	0.0063	0.0064	0.0060	0.0110	0.0085	0.0058	0.0226	0.0231	0.0044	0.0039	0.0052	0.0011	0.0044	0.0031	0.0106
Poultry Processors	0.0003	0.0003	0.0003	0.0003	0.0007	0.0008	0.0006	0.0006	0.0019	0.0020	0.0006	0.0005	0.0006	0.0001	0.0008	0.0003	0.0010
Dairy Factories	0.0029	0.0031	0.0029	0.0029	0.0397	0.0064	0.0050	0.0166	0.0209	0.0216	0.0452	0.0465	0.0916	0.0008	0.0034	0.0014	0.0083
Fish Products Industry	0.0010	0.0011	0.0010	0.0010	0.0008	0.0018	0.0014	0.0007	0.0013	0.0014	0.0006	0.0005	0.0006	0.0002	0.0005	0.0007	0.0016
Fruit & Veg. Processors	0.0007	0.0008	0.0007	0.0007	0.0060	0.0112	0.0018	0.0060	0.0138	0.0149	0.0036	0.0035	0.0044	0.0002	0.0464	0.0004	0.0008
Feed Manufacturers	0.0928	0.0913	0.0928	0.0928	0.0064	0.0764	0.0431	0.0069	0.0145	0.0149	0.0055	0.0053	0.0075	0.0042	0.0057	0.0177	0.0483
Flour & Breakfast Cereal Ind.	0.0095	0.0097	0.0095	0.0095	0.0027	0.7074	0.8464	0.0751	0.1462	0.1493	0.0048	0.0042	0.0064	0.0010	0.0049	0.0019	0.0105
Misc. Manufacturers	0.0001	0.0001	0.0001	0.0001	0.0006	0.0001	0.0001	0.8935	0.0004	0.0016	0.0043	0.0025	0.0222	0.0000	0.0001	0.0000	0.0001
Bakeries	0.0006	0.0006	0.0006	0.0006	0.0007	0.0008	0.0008	0.0689	0.9584	0.9764	0.0007	0.0022	0.0018	0.0003	0.0004	0.0005	0.0011
Confectionery Manufacturers	0.0001	0.0002	0.0001	0.0002	0.8297	0.0010	0.0008	0.0095	0.0075	0.0126	0.9977	1.0385	0.9197	0.0000	0.0006	0.0001	0.0018
Sugar Refineries	0.0014	0.0017	0.0014	0.0014	0.0763	0.0102	0.0088	0.0434	0.0281	0.0294	0.0881	0.0910	0.0827	1.0002	0.7861	0.0004	0.0104
Vegetable Oil Mills	0.0069	0.0070	0.0069	0.0070	0.0030	0.0111	0.0056	0.0020	0.0020	0.0021	0.0017	0.0014	0.0019	0.0004	0.0020	1.0179	0.0048
Misc. Food Ind.	0.0045	0.0233	0.0038	0.0063	0.2445	0.2837	0.1815	0.0774	0.0497	0.0628	0.0739	0.0331	0.0841	0.0008	0.1894	0.0015	0.0290
Soft Drinks Manufacturers	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0037	0.0004	0.0004	0.0003	0.0003	0.0003	0.0001	0.0002	0.0002	0.0007
Distillers	0.0005	0.0005	0.0005	0.0005	0.0007	0.0012	0.0011	0.0006	0.0005	0.0005	0.0006	0.0006	0.0006	0.0001	0.0005	0.0005	0.0016
Breweries	0.0003	0.0003	0.0003	0.0003	0.0008	0.0009	0.0009	0.0007	0.0006	0.0006	0.0007	0.0007	0.0007	0.0001	0.0005	0.0004	0.0009
Wineries	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0001
Leaf Tobacco Processing	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000
Fishing, Hunting, & Trapping	0.0006	0.0006	0.0006	0.0006	0.0004	0.0009	0.0007	0.0004	0.0006	0.0006	0.0004	0.0003	0.0004	0.0001	0.0003	0.0003	0.0008
Mines, Quarries & Oil Wells	0.0136	0.0137	0.0136	0.0136	0.0149	0.0152	0.0151	0.0137	0.0150	0.0153	0.0147	0.0146	0.0149	0.0078	0.0099	0.0057	0.0123
Manufacturing Except Food	0.1961	0.1974	0.1961	0.1963	0.2579	0.2466	0.2445	0.3168	0.2421	0.2470	0.2554	0.2547	0.2573	0.0894	0.1527	0.0524	0.1263
Communications	0.0096	0.0098	0.0096	0.0096	0.0196	0.0192	0.0192	0.0174	0.0178	0.0172	0.0194	0.0194	0.0192	0.0093	0.0085	0.0059	0.0154
Transportation & Storage	0.0393	0.0399	0.0392	0.0393	0.0589	0.1139	0.1196	0.0607	0.0662	0.0659	0.0554	0.0545	0.0559	0.0207	0.0322	0.0134	0.0413
Elec. Power, Gas, Other Utilities	0.0129	0.0128	0.0129	0.0129	0.0103	0.0131	0.0135	0.0120	0.0142	0.0143	0.0102	0.0102	0.0105	0.0054	0.0066	0.0033	0.0110
Wholesale Trade	0.0416	0.0416	0.0416	0.0416	0.0409	0.0488	0.0488	0.0426	0.0854	0.0502	0.0404	0.0403	0.0406	0.0302	0.0334	0.0067	0.0406
Retail Trade	0.0155	0.0155	0.0155	0.0155	0.0123	0.0157	0.0160	0.0147	0.0167	0.0168	0.0120	0.0119	0.0122	0.0046	0.0069	0.0039	0.0140
Fin., Ins., Real Estate	0.0535	0.0532	0.0536	0.0535	0.0363	0.0399	0.0414	0.0387	0.0429	0.0422	0.0370	0.0372	0.0373	0.0265	0.0279	0.0160	0.0422
Community Bus., Personal Serv.	0.0205	0.0210	0.0205	0.0205	0.0476	0.0413	0.0409	0.0403	0.0460	0.0488	0.0475	0.0475	0.0469	0.0108	0.0188	0.0119	0.0459
Transportation Margins	0.0227	0.0229	0.0227	0.0228	0.0279	0.0554	0.0585	0.0325	0.0562	0.0368	0.0267	0.0264	0.0273	0.0130	0.0174	0.0069	0.0255
Construction	0.0286	0.0283	0.0286	0.0286	0.0113	0.0186	0.0197	0.0126	0.0135	0.0136	0.0112	0.0112	0.0117	0.0067	0.0079	0.0042	0.0180
Oper. Office, Lab & Food	0.0746	0.0742	0.0747	0.0746	0.0503	0.0679	0.0709	0.0631	0.0679	0.0678	0.0508	0.0509	0.0525	0.0314	0.0360	0.0158	0.0692
Travel & Advertising Promotion	0.0133	0.0151	0.0133	0.0135	0.1020	0.0848	0.0825	0.0811	0.0657	0.0661	0.0990	0.0983	0.0962	0.0099	0.0314	0.0157	0.0441
Multiplier	1.7485	1.7538	1.7486	1.7494	1.9866	2.5094	2.4562	2.0896	2.1190	2.1367	1.9761	1.9730	1.9133	1.3205	1.4793	1.5266	1.0441

(Continued)

Table 3d (continued)

Industry	Prepared Cake & Similar Mixes	Beet Pulp	Soups, Dried & Soup Mixes & Bases	Coffee, Roasted, Ground, Prepared	Tea	Potato Chips & Similar Products	Misc. Food Mfg.	Soft Drink Concentrates & Syrup	Carbonated Beverage Soft Drinks	Soups Canned	Pickles, Relishes, Other Sauces	Vinegar	Other Food Preparations	Fish Products	Mustard Mayonnaise	Honey and Beeswax	Malt, Malt Flour & Wheat Starch
	Commodity																
Agriculture	0.2311	0.0463	0.1058	0.1021	0.1030	0.1029	0.1480	0.0342	0.0132	0.1285	0.1407	0.1285	0.1788	0.0121	0.3705	0.6899	0.1036
Forestry	0.0084	0.0028	0.0085	0.0082	0.0082	0.0082	0.0091	0.0089	0.0090	0.0107	0.0105	0.0107	0.0103	0.0083	0.0091	0.0089	0.0082
Slaughtering & Meat Processors	0.0550	0.0011	0.0152	0.0140	0.0142	0.0142	0.0376	0.0069	0.0049	0.0239	0.0273	0.0239	0.0318	0.0048	0.0089	0.0093	0.0142
Poultry Processors	0.0014	0.0001	0.0029	0.0015	0.0015	0.0015	0.0017	0.0008	0.0006	0.0104	0.0173	0.0104	0.0079	0.0013	0.0018	0.0008	0.0015
Dairy Factories	0.0103	0.0008	0.0128	0.0127	0.0129	0.0129	0.0953	0.0046	0.0034	0.0120	0.0297	0.0120	0.1430	0.0028	0.6684	0.0136	0.0129
Fish Products Industry	0.0018	0.0002	0.0019	0.0020	0.0020	0.0020	0.0019	0.0013	0.0012	0.0015	0.0015	0.0015	0.0015	1.0207	0.0013	0.0014	0.0020
Fruit & Veg. Processors	0.0251	0.0002	0.1186	0.0064	0.0065	0.0068	0.0364	0.0032	0.0015	1.0371	0.9359	1.0378	0.7554	0.0016	0.1065	0.0029	0.0065
Feed Manufacturers	0.0226	0.0042	0.0109	0.0106	0.0107	0.0107	0.0243	0.0040	0.0031	0.0127	0.0137	0.0127	0.0169	0.0037	0.0331	0.0606	0.0119
Flour & Breakfast Cereal Ind.	0.2811	0.0010	0.0207	0.0226	0.0230	0.0230	0.0215	0.0038	0.0012	0.0023	0.0038	0.0022	0.0053	0.0010	0.0103	0.0146	0.0240
Misc. Manufacturers	0.0002	0.0000	0.0002	0.0002	0.0002	0.0002	0.0006	0.0001	0.0001	0.0002	0.0002	0.0002	0.0036	0.0001	0.0004	0.0001	0.0002
Bakeries	0.0167	0.0003	0.0008	0.0007	0.0007	0.0007	0.0007	0.0010	0.0011	0.0009	0.0009	0.0009	0.0009	0.0025	0.0008	0.0006	0.0007
Confectionery Manufacturers	0.0046	0.0000	0.0030	0.0031	0.0031	0.0044	0.0214	0.0007	0.0004	0.0007	0.0008	0.0007	0.0010	0.0003	0.0157	0.0013	0.0031
Sugar Refineries	0.0151	1.0002	0.0192	0.0178	0.0181	0.0182	0.0180	0.0088	0.0756	0.0283	0.0269	0.0283	0.0247	0.0004	0.0134	0.0078	0.0181
Vegetable Oil Mills	0.0078	0.0004	0.0083	0.0090	0.0092	0.0092	0.0087	0.0018	0.0008	0.0015	0.0022	0.0015	0.0027	0.0005	0.0052	0.0078	0.0092
Misc. Food Ind.	0.7177	0.0008	0.9608	1.0575	1.0773	1.0757	0.8879	0.1518	0.0243	0.0083	0.0859	0.0075	0.1317	0.0054	0.3242	0.4157	1.0751
Soft Drinks Manufacturers	0.0003	0.0001	0.0003	0.0003	0.0003	0.0003	0.0005	0.9553	1.0855	0.0004	0.0004	0.0004	0.0133	0.0005	0.0005	0.0003	0.0003
Distillers	0.0010	0.0001	0.0009	0.0009	0.0009	0.0009	0.0009	0.0012	0.0012	0.0006	0.0006	0.0006	0.0006	0.0005	0.0006	0.0007	0.0009
Breweries	0.0009	0.0001	0.0009	0.0009	0.0009	0.0009	0.0021	0.0010	0.0038	0.0006	0.0006	0.0006	0.0006	0.0003	0.0006	0.0005	0.0009
Wineries	0.0001	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0083	0.0001	0.0001	0.0000	0.0001
Leaf Tobacco Processing	0.0001	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0001	0.0001	0.0001	0.0001	0.0003	0.0001	0.0000	0.0001
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0008	0.0001	0.0008	0.0009	0.0009	0.0009	0.0009	0.0006	0.0006	0.0007	0.0007	0.0007	0.0007	0.3515	0.0006	0.0007	0.0009
Mines, Quarries & Oil Wells	0.0158	0.0078	0.0167	0.0161	0.0162	0.0162	0.0174	0.0171	0.0172	0.0205	0.0201	0.0205	0.0195	0.0162	0.0165	0.0149	0.0162
Manufacturing Except Food	0.2666	0.0894	0.2797	0.2675	0.2702	0.2702	0.2946	0.3035	0.3079	0.3578	0.3485	0.3578	0.3369	0.2689	0.2676	0.2314	0.2701
Communications	0.0198	0.0053	0.0203	0.0208	0.0206	0.0206	0.0198	0.0239	0.0243	0.0181	0.0182	0.0181	0.0179	0.0145	0.0167	0.0139	0.0205
Transportation & Storage	0.0832	0.0207	0.0745	0.0756	0.0762	0.0762	0.0735	0.0598	0.0575	0.0634	0.0615	0.0634	0.0617	0.0701	0.0639	0.0536	0.0763
Elec. Power, Gas, Other Utilities	0.0117	0.0054	0.0108	0.0107	0.0105	0.0105	0.0112	0.0111	0.0112	0.0136	0.0134	0.0136	0.0133	0.0115	0.0135	0.0120	0.0105
Wholesale Trade	0.0455	0.0302	0.0443	0.0430	0.0434	0.0434	0.0439	0.0424	0.0422	0.0510	0.0505	0.0510	0.0490	0.0563	0.0441	0.0423	0.0435
Retail Trade	0.0160	0.0046	0.0146	0.0320	0.0136	0.0136	0.0149	0.0157	0.0160	0.0223	0.0217	0.0223	0.0206	0.0125	0.0159	0.0148	0.0137
Fin., Ins., Real Estate	0.0360	0.0265	0.0329	0.0336	0.0327	0.0327	0.0340	0.0386	0.0393	0.0349	0.0350	0.0349	0.0358	0.0291	0.0394	0.0454	0.0327
Community Bus., Personal Serv.	0.0449	0.0108	0.0475	0.0477	0.0480	0.0479	0.0462	0.0548	0.0558	0.0440	0.0440	0.0440	0.0434	0.0317	0.0410	0.0312	0.0479
Transportation Margins	0.0413	0.0130	0.0336	0.0335	0.0338	0.0338	0.0339	0.0254	0.0242	0.0317	0.0320	0.0317	0.0323	0.0340	0.0352	0.0271	0.0339
Construction	0.0148	0.0067	0.0121	0.0120	0.0119	0.0119	0.0130	0.0120	0.0120	0.0134	0.0136	0.0134	0.0142	0.0128	0.0176	0.0221	0.0120
Oper. Office, Lab & Food	0.0569	0.0314	0.0504	0.0484	0.0480	0.0480	0.0526	0.0630	0.0651	0.0702	0.0691	0.0702	0.0680	0.0629	0.0717	0.0644	0.0480
Travel & Advertising Promotion	0.1007	0.0099	0.1119	0.1149	0.1163	0.1162	0.1048	0.1421	0.1457	0.0766	0.0783	0.0766	0.0769	0.0278	0.0666	0.0531	0.1161
Multiplier	2.1543	1.3205	2.0416	2.0274	2.0352	2.0350	2.0775	2.0488	2.0502	2.0959	2.1037	2.0957	2.1296	2.0670	2.2828	1.8637	2.0358

(Continued)

Table 3d (continued)

Industry	Commodity															
	Alcoholic Beverages Distilled	Alcohol, Natural Ethyl	Brewers & Distillers' Grains	Ale, Beer, Stout & Porter	Wines	Tobacco Processed, Unmanufactured	Cigarettes	Tobacco Mfg. Ex. Cigarettes	Tobacco Raw	Veg. Oils & Fats, Crude	Feeds of Animal Origin Nes.	Primary or Concentrated Feeds	Feeds for Commercial Livestock	Feeds, Grain Origin Nes.	Feeds of Veg. Origin Nes.	Pet Feeds	Infant & Junior Foods Canned
Agriculture	0.0472	0.0480	0.0552	0.0164	0.1059	0.8656	0.2907	0.2907	1.0696	0.1999	0.6245	0.2986	0.3016	0.3859	0.2043	0.3344	0.1218
Forestry	0.0071	0.0071	0.0074	0.0075	0.0059	0.0084	0.0088	0.0086	0.0090	0.0032	0.0081	0.0072	0.0072	0.0078	0.0061	0.0073	0.0127
Slaughtering & Meat Processors	0.0039	0.0039	0.0067	0.0037	0.0026	0.0056	0.0037	0.0037	0.0063	0.0245	1.0653	0.0492	0.0541	0.0309	0.0346	0.2067	0.0256
Poultry Processors	0.0005	0.0005	0.0007	0.0005	0.0004	0.0003	0.0004	0.0004	0.0003	0.0003	0.0009	0.0014	0.0014	0.0010	0.0011	0.0013	0.0097
Dairy Factories	0.0022	0.0021	0.0043	0.0025	0.0015	0.0027	0.0019	0.0019	0.0029	0.0015	0.0054	0.0152	0.0198	0.0101	0.0114	0.0135	0.0113
Fish Products Industry	0.0009	0.0009	0.0015	0.0006	0.0010	0.0009	0.0007	0.0007	0.0010	0.0008	0.0022	0.0100	0.0099	0.0062	0.0070	0.0081	0.0014
Fruit & Veg. Processors	0.0014	0.0014	0.0022	0.0011	0.0026	0.0007	0.0006	0.0006	0.0007	0.0004	0.0010	0.0029	0.0029	0.0024	0.0022	0.0029	0.7659
Feed Manufacturers	0.0052	0.0053	0.0338	0.0020	0.0100	0.0752	0.0257	0.0257	0.0928	0.0185	0.1135	1.1208	1.1096	0.6533	0.7742	0.8751	0.0120
Flour & Breakfast Cereal Ind.	0.0011	0.0011	0.0064	0.0054	0.0012	0.0077	0.0028	0.0028	0.0095	0.0020	0.0075	0.0346	0.0357	0.4466	0.0162	0.0282	0.0021
Misc. Manufacturers	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002
Bakeries	0.0009	0.0009	0.0008	0.0007	0.0006	0.0006	0.0007	0.0007	0.0006	0.0005	0.0007	0.0008	0.0008	0.0008	0.0007	0.0008	0.0009
Confectionery Manufacturers	0.0002	0.0002	0.0007	0.0003	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0009	0.0009	0.0006	0.0006	0.0009	0.0006
Sugar Refineries	0.0029	0.0031	0.0054	0.0019	0.0169	0.0012	0.0019	0.0019	0.0014	0.0004	0.0019	0.0122	0.0121	0.0099	0.0085	0.0111	0.0264
Vegetable Oil Mills	0.0007	0.0007	0.0036	0.0011	0.0009	0.0057	0.0021	0.0021	0.0069	0.9967	0.0131	0.0573	0.0568	0.0348	0.0396	0.0466	0.0015
Misc. Food Ind.	0.0157	0.0155	0.2110	0.0120	0.0016	0.0032	0.0022	0.0022	0.0038	0.0020	0.0071	0.0351	0.0348	0.0241	0.0244	0.1158	0.0071
Soft Drinks Manufacturers	0.0004	0.0004	0.0004	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0004	0.0004	0.0004	0.0004	0.0003	0.0004	0.0004
Distillers	1.0268	1.0128	0.5799	0.0007	0.0019	0.0005	0.0007	0.0007	0.0005	0.0003	0.0007	0.0050	0.0050	0.0033	0.0036	0.0040	0.0006
Breweries	0.0007	0.0007	0.2459	1.0011	0.0006	0.0003	0.0007	0.0007	0.0003	0.0002	0.0005	0.0024	0.0024	0.0017	0.0018	0.0020	0.0006
Wineries	0.0005	0.0144	0.0002	0.0001	1.0134	0.0000	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Leaf Tobacco Processing	0.0001	0.0001	0.0001	0.0000	0.0001	1.0000	0.2906	0.2906	0.0000	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0001	0.0001
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0049	1.0049	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0005	0.0005	0.0007	0.0004	0.0005	0.0005	0.0004	0.0004	0.0006	0.0003	0.0011	0.0053	0.0053	0.0033	0.0038	0.0043	0.0007
Mines, Quarries & Oil Wells	0.0140	0.0140	0.0143	0.0138	0.0108	0.0131	0.0149	0.0149	0.0136	0.0058	0.0139	0.0149	0.0149	0.0148	0.0126	0.0147	0.0237
Manufacturing Except Food	0.2369	0.2362	0.2459	0.2546	0.1902	0.1922	0.2723	0.2723	0.1961	0.0841	0.2110	0.2027	0.2031	0.2176	0.1774	0.2069	0.4292
Communications	0.0175	0.0174	0.0189	0.0214	0.0137	0.0099	0.0177	0.0177	0.0096	0.0061	0.0147	0.0157	0.0157	0.0173	0.0218	0.0160	0.0180
Transportation & Storage	0.0551	0.0549	0.0590	0.0487	0.0397	0.0592	0.0498	0.0498	0.0392	0.0386	0.0530	0.1320	0.1313	0.1297	0.1141	0.1152	0.0599
Elec. Power, Gas, Other Utilities	0.0101	0.0101	0.0110	0.0130	0.0081	0.0129	0.0094	0.0094	0.0129	0.0100	0.0136	0.0143	0.0143	0.0141	0.0126	0.0139	0.0138
Wholesale Trade	0.0344	0.0345	0.0352	0.0282	0.0463	0.0384	0.0330	0.0330	0.0416	0.0271	0.0487	0.0691	0.0689	0.0703	0.3717	0.0639	0.0503
Retail Trade	0.0122	0.0122	0.0127	0.0127	0.0092	0.0150	0.0127	0.0127	0.0155	0.0067	0.0494	0.0167	0.0168	0.0165	0.0157	0.0216	0.0217
Fin., Ins., Real Estate	0.0235	0.0236	0.0252	0.0234	0.0298	0.0567	0.0426	0.0426	0.0536	0.0165	0.0423	0.0337	0.0338	0.0379	0.0414	0.0350	0.0350
Community Bus., Personal Serv.	0.0670	0.0665	0.0635	0.0694	0.0307	0.0223	0.0449	0.0449	0.0205	0.0122	0.0273	0.0298	0.0298	0.0341	0.0364	0.0308	0.0436
Transportation Margins	0.0206	0.0206	0.0234	0.0182	0.0184	0.0398	0.0235	0.0235	0.0227	0.0270	0.0306	0.0655	0.0652	0.0640	0.0504	0.0575	0.0315
Construction	0.0098	0.0098	0.0104	0.0098	0.0101	0.0265	0.0175	0.0175	0.0286	0.0085	0.0217	0.0172	0.0172	0.0188	0.0152	0.0175	0.0135
Oper. Office, Lab & Food	0.0506	0.0503	0.0497	0.0467	0.0338	0.0817	0.0539	0.0539	0.0747	0.0345	0.0749	0.0699	0.0700	0.0721	0.0673	0.0689	0.0700
Travel & Advertising Promotion	0.1074	0.1070	0.1142	0.1365	0.0801	0.0161	0.0972	0.0972	0.0133	0.0159	0.0273	0.0385	0.0385	0.0548	0.0497	0.0430	0.0742
Multiplier	1.7781	1.7768	1.8499	1.8549	1.6894	2.9634	2.5295	2.5295	1.7486	1.5449	2.4827	2.3795	2.3804	2.3852	2.1268	2.3685	2.0861

(Continued)

Table 3d (continued)

Industry	Commodity: Hops Including Lupulin	Hay Forage & Straw	Hides & Skins, Raw Mat.	Mink Skins, Ranch & Undressed	Wool in Grease	Serv. Incidental to Ag. & Forestry	Forestry Products	Fishing & Trapping Products	Textile Products	Knitted Products & Clothing	Lumber, Sawmill, Other Wood Products	Furniture & Fixtures	Paper & Paper Products	Printing & Publishing	Metallic Ores & Concentrates	Minerals Fuels	Nonmetallic Minerals
Agriculture	1.0696	0.8497	0.6106	1.0696	1.0696	0.9681	0.0525	0.0025	0.0072	0.0662	0.0057	0.0057	0.0057	0.0057	0.0045	0.0045	0.0041
Forestry	0.0090	0.0085	0.0076	0.0090	0.0090	0.0544	1.0620	0.0075	0.0389	0.0397	0.0434	0.0399	0.0400	0.0400	0.0068	0.0041	0.0062
Slaughtering & Meat Processors	0.0063	0.0186	0.9629	0.0663	0.0063	0.0061	0.0041	0.0011	0.0028	0.0028	0.0028	0.0028	0.0028	0.0028	0.0026	0.0025	0.0024
Poultry Processors	0.0003	0.0006	0.0008	0.0003	0.0003	0.0003	0.0006	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Dairy Factories	0.0029	0.0064	0.0044	0.0029	0.0029	0.0028	0.0027	0.0008	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0017	0.0017	0.0017
Fish Products Industry	0.0010	0.0036	0.0016	0.0010	0.0010	0.0010	0.0006	0.0002	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0012
Fruit & Veg. Processors	0.0007	0.0013	0.0008	0.0007	0.0007	0.0007	0.0010	0.0002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0006	0.0006
Feed Manufacturers	0.0928	0.3885	0.0547	0.0928	0.0928	0.0868	0.0068	0.0004	0.0010	0.0010	0.0009	0.0009	0.0009	0.0009	0.0006	0.0006	0.0006
Flour & Breakfast Cereal Ind.	0.0095	0.0135	0.0062	0.0095	0.0095	0.0089	0.0009	0.0002	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0003	0.0003	0.0004
Misc. Manufacturers	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0000	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001	0.0001	0.0001
Bakeries	0.0006	0.0006	0.0007	0.0006	0.0006	0.0006	0.0012	0.0003	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0008	0.0008	0.0008
Confectionery Manufacturers	0.0001	0.0003	0.0002	0.0001	0.0001	0.0001	0.0001	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0001
Sugar Refineries	0.0014	0.0045	0.0012	0.0014	0.0014	0.0013	0.0005	0.0001	0.0002	0.0002	0.0002	0.0002	0.0003	0.0002	0.0003	0.0003	0.0003
Vegetable Oil Mills	0.0069	0.0214	0.0096	0.0069	0.0069	0.0065	0.0006	0.0002	0.0010	0.0010	0.0010	0.0010	0.0010	0.0010	0.0004	0.0003	0.0003
Misc. Food Ind.	0.0038	0.0128	0.0051	0.0038	0.0038	0.0036	0.0013	0.0004	0.0013	0.0013	0.0013	0.0013	0.0015	0.0013	0.0008	0.0008	0.0008
Soft Drinks Manufacturers	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0006	0.0001	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0004
Distillers	0.0005	0.0018	0.0005	0.0005	0.0005	0.0005	0.0002	0.0001	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0001	0.0001	0.0001
Breweries	0.0003	0.0009	0.0003	0.0003	0.0003	0.0003	0.0002	0.0001	0.0003	0.0003	0.0003	0.0003	0.0006	0.0003	0.0001	0.0001	0.0001
Wineries	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Leaf Tobacco Processing	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0006	0.0020	0.0008	0.0006	0.0006	0.0006	0.0004	1.0113	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0003	0.0002	0.0002
Mines, Quarries & Oil Wells	0.0136	0.0140	0.0130	0.0136	0.0136	0.0134	0.0117	0.0165	0.0672	0.0686	0.0690	0.0690	0.0691	0.0692	0.9715	1.0431	1.0135
Manufacturing Except Food	0.1961	0.1979	0.1940	0.1961	0.1961	0.1930	0.1922	0.2602	1.3922	1.4220	1.4305	1.4300	1.4326	1.4346	0.2343	0.1389	0.1775
Communications	0.0096	0.0113	0.0162	0.0096	0.0096	0.0103	0.0121	0.0078	0.0180	0.0176	0.0174	0.0175	0.0174	0.0174	0.0103	0.0097	0.0100
Transportation & Storage	0.0392	0.0656	0.0474	0.0392	0.0392	0.0402	0.0621	0.0322	0.0524	0.0526	0.0528	0.0528	0.0528	0.0527	0.0327	0.0311	0.0317
Elec. Power, Gas, Other Utilities	0.0129	0.0133	0.0143	0.0129	0.0129	0.0128	0.0071	0.0048	0.0169	0.0169	0.0168	0.0168	0.0168	0.0168	0.0217	0.0221	0.0219
Wholesale Trade	0.0416	0.0495	0.0445	0.0416	0.0416	0.0405	0.0320	0.0280	0.0429	0.0411	0.0419	0.0453	0.0428	0.0418	0.0245	0.0232	0.0239
Retail Trade	0.0155	0.0158	0.1435	0.0155	0.0155	0.0427	0.0210	0.0118	0.0422	0.0218	0.0118	0.0118	0.0118	0.0118	0.0109	0.0108	0.0109
Fin., Ins., Real Estate	0.0536	0.0479	0.0474	0.0536	0.0536	0.0566	0.1039	0.0214	0.0377	0.0367	0.0365	0.0363	0.0363	0.0362	0.0859	0.0898	0.0883
Community Bus., Personal Serv.	0.0205	0.0231	0.0274	0.0205	0.0205	0.0230	0.0699	0.0188	0.0374	0.0374	0.0376	0.0375	0.0375	0.0375	0.0431	0.0436	0.0432
Transportation Margins	0.0227	0.0349	0.0272	0.0227	0.0227	0.0221	0.0134	0.0130	0.0275	0.0278	0.0278	0.0278	0.0279	0.0279	0.0132	0.0121	0.0126
Construction	0.0286	0.0254	0.0218	0.0286	0.0286	0.0284	0.0294	0.0072	0.0134	0.0134	0.0134	0.0133	0.0133	0.0133	0.0253	0.0263	0.0259
Oper. Office, Lab & Food	0.0747	0.0733	0.0746	0.0747	0.0747	0.0777	0.1480	0.0259	0.0666	0.0665	0.0668	0.0665	0.0665	0.0665	0.0939	0.0960	0.0950
Travel & Advertising Promotion	0.0133	0.0203	0.0275	0.0133	0.0133	0.0143	0.0198	0.0103	0.0422	0.0421	0.0421	0.0423	0.0422	0.0422	0.0177	0.0157	0.0167
Multiplier	1.7486	1.9277	2.3673	1.7486	1.7486	1.7480	1.8397	1.4836	1.9147	1.9224	1.9254	1.9244	1.9253	1.9257	1.6062	1.5806	1.5964

(Continued)

Table 3d (continued)

Industry	Commodity: Services Incidental to Mining	Primary Metal Products	Metal Fabricated Products	Nonmetallic Minerals Products	Pet. & Coal Products	Chemicals, Chemical Products	Nitrogen Function. Compounds Mat.	Autos, Trucks, Other Transp. Equipment	Transportation & Storage	Elec. & Communications Products	Communication Services	Other Utilities	Misc. Manuf. Products	Nonresidential Construction	Repair Construction	Rubber, Leather, Plastic Products	Wholesale Margin
Agriculture	0.0045	0.0057	0.0057	0.0057	0.0056	0.0112	0.0183	0.0056	0.0042	0.0056	0.0026	0.0014	0.0067	0.0056	0.0056	0.0070	0.0153
Forestry	0.0041	0.0401	0.0400	0.0399	0.0394	0.0384	0.0375	0.0399	0.0079	0.0388	0.0024	0.0022	0.0393	0.0154	0.0154	0.0399	0.0107
Slaughtering & Meat Processors	0.0025	0.0028	0.0028	0.0028	0.0028	0.0089	0.0025	0.0028	0.0020	0.0027	0.0012	0.0008	0.0030	0.0026	0.0026	0.0051	0.0060
Poultry Processors	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0002	0.0001	0.0015	0.0004	0.0004	0.0003	0.0010
Dairy Factories	0.0017	0.0016	0.0016	0.0016	0.0016	0.0017	0.0016	0.0016	0.0014	0.0016	0.0007	0.0005	0.0017	0.0018	0.0018	0.0016	0.0110
Fish Products Industry	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0002	0.0001	0.0004	0.0005	0.0005	0.0004	0.0016
Fruit & Veg. Processors	0.0006	0.0005	0.0005	0.0005	0.0005	0.0006	0.0005	0.0005	0.0005	0.0005	0.0003	0.0002	0.0005	0.0006	0.0006	0.0005	0.0022
Feed Manufacturers	0.0066	0.0069	0.0012	0.0009	0.0009	0.0015	0.0021	0.0009	0.0007	0.0009	0.0003	0.0002	0.0010	0.0009	0.0009	0.0010	0.0060
Flour & Breakfast Cereal Ind.	0.0003	0.0004	0.0004	0.0004	0.0004	0.0005	0.0005	0.0004	0.0003	0.0004	0.0001	0.0001	0.0004	0.0004	0.0004	0.0004	0.0025
Misc. Manufacturers	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0002
Bakeries	0.0008	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0003	0.0002	0.0006	0.0007	0.0007	0.0006	0.0031
Confectionery Manufacturers	0.0001	0.0001	0.0001	0.0001	0.0001	0.0006	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0006
Sugar Refineries	0.0003	0.0002	0.0002	0.0002	0.0002	0.0004	0.0003	0.0002	0.0002	0.0002	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0008
Vegetable Oil Mills	0.0003	0.0010	0.0010	0.0010	0.0010	0.0095	0.0703	0.0010	0.0002	0.0010	0.0001	0.0001	0.0010	0.0005	0.0005	0.0010	0.0007
Misc. Food Ind.	0.0008	0.0013	0.0013	0.0013	0.0013	0.0067	0.0013	0.0013	0.0006	0.0012	0.0003	0.0002	0.0013	0.0009	0.0009	0.0013	0.0042
Soft Drinks Manufacturers	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0001	0.0001	0.0003	0.0003	0.0003	0.0003	0.0015
Distillers	0.0001	0.0004	0.0004	0.0004	0.0004	0.0008	0.0004	0.0004	0.0001	0.0004	0.0001	0.0001	0.0004	0.0003	0.0003	0.0004	0.0005
Breweries	0.0001	0.0003	0.0003	0.0003	0.0003	0.0006	0.0003	0.0003	0.0002	0.0003	0.0001	0.0001	0.0003	0.0002	0.0002	0.0003	0.0013
Wineries	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0002
Leaf Tobacco Processing	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0004
Fishing, Hunting, & Trapping	0.0002	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0007	0.0002	0.0007	0.0001	0.0001	0.0007	0.0004	0.0004	0.0007	0.0007
Mines, Quarries & Oil Wells	1.0434	0.0694	0.0691	0.0725	0.0879	0.0938	0.0649	0.0690	0.0111	0.0671	0.0046	0.0209	0.0679	0.0376	0.0376	0.0689	0.0165
Manufacturing Except Food	0.1384	1.4357	1.4321	1.4285	1.4107	1.3764	1.3435	1.4312	0.1628	1.3909	0.0758	0.0692	1.4085	0.4845	0.4845	1.4297	0.3076
Communications	0.0097	0.0174	0.0175	0.0174	0.0173	0.0171	0.0166	0.0174	0.0205	0.0506	1.0309	0.0065	0.0178	0.0127	0.0127	0.0175	0.0321
Transportation & Storage	0.0311	0.0527	0.0528	0.0527	0.0523	0.0521	0.0518	0.0566	1.0980	0.0528	0.0556	0.0201	0.0532	0.0486	0.0486	0.0528	0.0735
Elec. Power, Gas, Other Utilities	0.0221	0.0168	0.0168	0.0168	0.0172	0.0169	0.0164	0.0168	0.0077	0.0164	0.0036	0.9947	0.0167	0.0076	0.0076	0.0168	0.0101
Wholesale Trade	0.0232	0.0469	0.0455	0.0450	0.0405	0.0405	0.0399	0.0409	0.0289	0.0402	0.0092	0.0090	0.0602	0.0567	0.0567	0.0436	0.8588
Retail Trade	0.0168	0.0118	0.0118	0.0118	0.0117	0.0119	0.0114	0.0118	0.0190	0.0119	0.0165	0.0042	0.0118	0.0217	0.0217	0.0119	0.0135
Fin., Ins., Real Estate	0.0899	0.0362	0.0363	0.0365	0.0372	0.0375	0.0348	0.0362	0.0324	0.0359	0.0269	0.0263	0.0367	0.0306	0.0306	0.0363	0.0547
Community Bus., Personal Serv.	0.0436	0.0374	0.0375	0.0375	0.0376	0.0374	0.0357	0.0374	0.0366	0.0373	0.0313	0.0178	0.0377	0.0526	0.0526	0.0375	0.0488
Transportation Margins	0.0121	0.0279	0.0279	0.0278	0.0276	0.0275	0.0278	0.0278	0.0137	0.0273	0.0088	0.0075	0.0277	0.0269	0.0269	0.0279	0.0198
Construction	0.0263	0.0133	0.0133	0.0134	0.0136	0.0137	0.0130	0.0134	0.0394	0.0140	0.0325	0.0433	0.0133	1.0085	1.0085	0.0134	0.0117
Oper. Office, Lab & Food	0.0660	0.0665	0.0665	0.0666	0.0671	0.0669	0.0643	0.0665	0.0682	0.0651	0.0250	0.0187	0.0664	0.0533	0.0533	0.0665	0.0628
Travel & Advertising Promotion	0.0157	0.0421	0.0422	0.0421	0.0416	0.0416	0.0403	0.0420	0.0216	0.0412	0.0148	0.0085	0.0427	0.0237	0.0237	0.0422	0.0697
Multiplier	1.9665	1.9259	1.9535	1.9241	1.9192	1.9171	1.8989	1.9244	1.5802	1.9068	1.3446	1.2531	1.9201	1.8969	1.8969	1.9262	1.6502

(Continued)

Table 3d (continued)

Industry	Commodity: Retail Margin	Other Finance, Ins. & Real Estate	Business Services	Personal & Other Misc. Services	Transportation Margin	Operating Office & Lab. & Food	Travel, Advertisement & Promotion	Imputed Rent Owner Occupied Dwellings	Machinery & Equipment	Residential Construction	Nursery Stock & Related Material	Animal Material for Drugs & Perfume	Custom Work Meat & Food
Agriculture	0.0556	0.0034	0.0313	0.0345	0.0101	0.0311	0.0131	0.0022	0.0058	0.0056	1.0696	0.6373	0.3824
Forestry	0.0037	0.0027	0.0068	0.0083	0.0101	0.0178	0.0133	0.0022	0.0398	0.0154	0.0090	0.0078	0.0080
Slaughtering & Meat Processors	0.0027	0.0017	0.0245	0.0215	0.0053	0.0169	0.0075	0.0012	0.0028	0.0026	0.0063	1.1079	0.3116
Poultry Processors	0.0004	0.0002	0.0041	0.0036	0.0007	0.0022	0.0012	0.0002	0.0003	0.0004	0.0003	0.0009	0.0419
Dairy Factories	0.0015	0.0010	0.0102	0.0094	0.0040	0.0134	0.0036	0.0007	0.0017	0.0018	0.0029	0.0051	0.0997
Fish Products Industry	0.0005	0.0003	0.0054	0.0047	0.0007	0.0017	0.0016	0.0002	0.0004	0.0005	0.0010	0.0018	0.1376
Fruit & Veg. Processors	0.0006	0.0004	0.0045	0.0041	0.0014	0.0047	0.0015	0.0003	0.0010	0.0006	0.0007	0.0010	0.0444
Feed Manufacturers	0.0052	0.0004	0.0031	0.0026	0.0013	0.0035	0.0015	0.0003	0.0009	0.0009	0.0928	0.0569	0.3121
Flour & Breakfast Cereal Ind.	0.0008	0.0002	0.0021	0.0020	0.0008	0.0025	0.0008	0.0002	0.0004	0.0004	0.0095	0.0071	0.0359
Misc. Manufacturers	0.0001	0.0001	0.0008	0.0007	0.0003	0.0009	0.0002	0.0000	0.0001	0.0001	0.0001	0.0001	0.0062
Bakeries	0.0007	0.0006	0.0061	0.0053	0.0017	0.0057	0.0019	0.0004	0.0007	0.0007	0.0006	0.0007	0.0562
Confectionery Manufacturers	0.0001	0.0000	0.0003	0.0003	0.0001	0.0004	0.0001	0.0000	0.0002	0.0001	0.0001	0.0003	0.0120
Sugar Refineries	0.0003	0.0001	0.0015	0.0013	0.0006	0.0021	0.0005	0.0001	0.0003	0.0002	0.0014	0.0018	0.0101
Vegetable Oil Mills	0.0005	0.0001	0.0006	0.0006	0.0004	0.0012	0.0005	0.0001	0.0010	0.0005	0.0069	0.0108	0.0186
Misc. Food Ind.	0.0008	0.0005	0.0042	0.0038	0.0017	0.0054	0.0023	0.0003	0.0013	0.0009	0.0038	0.0337	0.0344
Soft Drinks Manufacturers	0.0003	0.0002	0.0019	0.0018	0.0009	0.0031	0.0007	0.0002	0.0003	0.0003	0.0003	0.0004	0.0240
Distillers	0.0003	0.0002	0.0002	0.0003	0.0002	0.0003	0.0051	0.0001	0.0005	0.0003	0.0005	0.0005	0.0362
Breweries	0.0003	0.0002	0.0003	0.0003	0.0002	0.0004	0.0066	0.0002	0.0004	0.0002	0.0003	0.0004	0.0069
Wineries	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0028
Leaf Tobacco Processing	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0417
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0001
Fishing, Hunting, & Trapping	0.0003	0.0002	0.0028	0.0026	0.0004	0.0012	0.0010	0.0001	0.0007	0.0004	0.0006	0.0008	0.0480
Mines, Quarries & Oil Wells	0.0085	0.0125	0.0129	0.0121	0.0153	0.0321	0.0226	0.0054	0.0786	0.0376	0.0136	0.0132	0.0149
Manufacturing Except Food	0.1192	0.0844	0.2328	0.1627	0.2608	0.6064	0.4300	0.0700	1.4219	0.4845	0.1961	0.1958	0.2282
Communications	0.0337	0.0191	0.0468	0.0260	0.0199	0.0168	0.1011	0.0190	0.0173	0.0127	0.0096	0.0147	0.0155
Transportation & Storage	0.0416	0.0254	0.0366	0.0432	0.8816	0.0574	0.1877	0.0208	0.0525	0.0486	0.0392	0.0493	0.0781
Elec. Power, Gas, Other Utilities	0.0234	0.0058	0.0094	0.0140	0.0085	0.0110	0.0096	0.0053	0.0169	0.0076	0.0129	0.0135	0.0135
Wholesale Trade	0.0185	0.0141	0.0241	0.0721	0.0471	0.1112	0.0463	0.0096	0.0407	0.0567	0.0416	0.0475	0.0533
Retail Trade	0.9967	0.0104	0.0183	0.1435	0.0307	0.0721	0.0544	0.0062	0.0118	0.0217	0.0155	0.0568	0.0256
Fin., Ins., Real Estate	0.0832	1.0230	0.0527	0.0646	0.0330	0.0339	0.0351	1.0651	0.0367	0.0306	0.0536	0.0426	0.0383
Community Bus., Personal Serv.	0.0455	0.0412	0.9336	0.8081	0.0577	0.1318	0.2527	0.0300	0.0375	0.0526	0.0205	0.0275	0.0337
Transportation Margins	0.0160	0.0129	0.0179	0.0173	0.8010	0.0352	0.0194	0.0127	0.0277	0.0269	0.0227	0.0288	0.0410
Construction	0.0164	0.0806	0.0119	0.0200	0.0336	0.0112	0.0170	0.0782	0.0135	1.0085	0.0286	0.0219	0.0182
Oper. Office, Lab & Food	0.0687	0.0333	0.0581	0.0600	0.2828	1.0517	0.0481	0.0318	0.0668	0.0533	0.0747	0.0746	0.0716
Travel & Advertising Promotion	0.0425	0.0241	0.0340	0.0368	0.0240	0.0320	1.0276	0.0237	0.0419	0.0237	0.0133	0.0288	0.0429
Multiplier	1.5886	1.5994	1.5998	1.6234	2.5374	2.3121	2.7318	1.3868	1.9225	1.8966	1.7486	2.4844	2.3335

(Continued)

Table 3e

Impact of Year 1971

Industry	Cattle and Calves	Sheep and Lambs	Hogs	Poultry	Poultry, Fresh, Frozen, Chilled	Poultry Canned	Other Live Animals	Beef, Veal, Mutton, Pork-Fresh & Frozen	Horse Meat Fresh, Chilled Frozen	Meat Cured	Meat, Prepared, Cooked not Canned	Meat Prepared Canned	Animal Fats and Fats and Lard	Margarine, Shortening & Cook Fats	Sausage Casings, Natural & Synth.	Primary Tankage	Milk, Whole, Fluid, Processed
Agriculture	1.0750	1.0750	1.0750	1.0740	0.7266	0.7079	1.0750	0.6910	0.1680	0.7832	0.7830	0.6685	0.7766	0.5364	0.4726	0.6943	0.6265
Forestry	0.0087	0.0087	0.0087	0.0087	0.0063	0.0090	0.0087	0.0076	0.0052	0.0084	0.0084	0.0085	0.0084	0.0113	0.0192	0.0096	0.0089
Slaughtering & Meat Processors	0.0069	0.0069	0.0069	0.0069	0.0708	0.0147	0.0069	0.9569	0.5103	1.1405	1.1401	0.9255	1.1241	0.3410	0.6856	0.9726	0.0071
Poultry Processors	0.0003	0.0003	0.0003	0.0005	0.8413	1.0351	0.0003	0.0005	0.0004	0.0005	0.0005	0.0130	0.0036	0.0017	0.0004	0.0005	0.0005
Dairy Factories	0.0042	0.0042	0.0042	0.0042	0.0045	0.0047	0.0042	0.0054	0.0034	0.0061	0.0061	0.0077	0.0062	0.0024	0.0043	0.0071	1.1250
Fish Products Industry	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0012	0.0016	0.0009	0.0018	0.0018	0.0017	0.0018	0.0014	0.0012	0.0024	0.0011
Fruit & Veg. Processors	0.0009	0.0009	0.0009	0.0009	0.0053	0.0013	0.0009	0.0011	0.0008	0.0013	0.0013	0.1725	0.0013	0.0061	0.0010	0.0015	0.0040
Feed Manufacturers	0.1089	0.1089	0.1089	0.1089	0.0739	0.0311	0.1089	0.0715	0.0382	0.0812	0.0812	0.0698	0.0804	0.0365	0.0491	0.1817	0.0638
Flour & Breakfast Cereal Ind.	0.0075	0.0075	0.0075	0.0075	0.0053	0.0057	0.0075	0.0055	0.0030	0.0062	0.0062	0.0058	0.0063	0.0140	0.0038	0.0070	0.0048
Misc. Manufacturers	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0001	0.0001	0.0005
Bakeries	0.0006	0.0006	0.0006	0.0006	0.0007	0.0008	0.0006	0.0008	0.0006	0.0008	0.0008	0.0008	0.0008	0.0005	0.0007	0.0008	0.0009
Confectionery Manufacturers	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0002	0.0002	0.0004	0.0002	0.0008	0.0002	0.0003	0.0026
Sugar Refineries	0.0010	0.0010	0.0010	0.0010	0.0069	0.0008	0.0010	0.0010	0.0006	0.0012	0.0012	0.0054	0.0012	0.0109	0.0008	0.0017	0.0073
Vegetable Oil Mills	0.0097	0.0097	0.0097	0.0097	0.0072	0.0074	0.0097	0.0137	0.0073	0.0159	0.0159	0.0135	0.0163	0.0137	0.0099	0.0199	0.0060
Misc. Food Ind.	0.0047	0.0047	0.0047	0.0047	0.0039	0.0041	0.0047	0.0062	0.0035	0.0076	0.0079	0.0249	0.0074	0.5834	0.0049	0.0099	0.0112
Soft Drinks Manufacturers	0.0005	0.0005	0.0005	0.0005	0.0006	0.0007	0.0005	0.0008	0.0005	0.0008	0.0008	0.0009	0.0008	0.0006	0.0006	0.0008	0.0010
Distillers	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0005	0.0007	0.0007	0.0007	0.0007	0.0001	0.0006	0.0011	0.0006
Breweries	0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0003	0.0004	0.0003	0.0004	0.0004	0.0004	0.0004	0.0005	0.0004	0.0006	0.0004
Wineries	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0001	0.0000	0.0000	0.0001
Leaf Tobacco Processing	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0002	0.0001
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting & Trapping	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0006	0.0004	0.0007	0.0007	0.0007	0.0007	0.0006	0.0006	0.0009	0.0005
Mines, Quarries, & Oil Wells	0.0150	0.0150	0.0150	0.0150	0.0153	0.0163	0.0150	0.0147	0.0110	0.0159	0.0159	0.0166	0.0161	0.0230	0.0372	0.0193	0.0174
Manufacturing Except Food	0.1871	0.1871	0.1871	0.1871	0.2149	0.2307	0.1871	0.1954	0.1462	0.2121	0.2121	0.2336	0.2159	0.3940	0.6835	0.2719	0.2517
Communications	0.0118	0.0118	0.0118	0.0118	0.0197	0.0178	0.0118	0.0213	0.0294	0.0190	0.0190	0.0197	0.0190	0.0230	0.0196	0.0192	0.0189
Transportation & Storage	0.0425	0.0425	0.0425	0.0425	0.0578	0.0611	0.0425	0.0542	0.0453	0.0576	0.0576	0.0587	0.0581	0.0645	0.0551	0.0637	0.0627
Elec. Power, Gas, Other Utilities	0.0137	0.0137	0.0137	0.0137	0.0172	0.0172	0.0137	0.0160	0.0173	0.0156	0.0156	0.0153	0.0156	0.0139	0.0168	0.0156	0.0165
Wholesale Trade	0.0450	0.0450	0.0450	0.0450	0.0573	0.0629	0.0450	0.0528	0.0346	0.0591	0.0591	0.0573	0.0581	0.0474	0.0509	0.0588	0.0484
Retail Trade	0.0174	0.0174	0.0174	0.0174	0.1228	0.0226	0.0174	0.1663	0.5753	0.0364	0.0363	0.0328	0.0361	0.0194	0.0260	0.0330	0.0175
Fin., Ins., Real Estate	0.0404	0.0404	0.0404	0.0404	0.0437	0.0406	0.0404	0.0456	0.0578	0.0390	0.0390	0.0383	0.0389	0.0360	0.0370	0.0379	0.0405
Community Bus., Personal Serv.	0.0244	0.0244	0.0244	0.0244	0.0334	0.0332	0.0244	0.0354	0.0356	0.0358	0.0358	0.0382	0.0358	0.0442	0.0394	0.0362	0.0438
Transportation Margins	0.0287	0.0287	0.0287	0.0287	0.0362	0.0391	0.0287	0.0352	0.0249	0.0388	0.0388	0.0386	0.0382	0.0387	0.0348	0.0425	0.0432
Construction	0.0240	0.0240	0.0240	0.0240	0.0216	0.0225	0.0240	0.0214	0.0178	0.0225	0.0225	0.0208	0.0224	0.0140	0.0186	0.0213	0.0179
Oper. Office, Lab & Food	0.0823	0.0823	0.0823	0.0823	0.0885	0.0930	0.0823	0.0864	0.0777	0.0911	0.0911	0.0872	0.0885	0.0678	0.0820	0.0884	0.0958
Travel & Advertising Promotion	0.0112	0.0112	0.0112	0.0112	0.0212	0.0218	0.0112	0.0262	0.0310	0.0241	0.0232	0.0204	0.0233	0.0554	0.0271	0.0244	0.0261
Multiplier	1.7755	1.7755	1.7755	1.7756	2.0473	2.0463	1.7755	2.5331	2.0430	2.7257	2.7235	2.6092	2.7154	2.2528	2.5841	2.6453	2.5054

(Continued)

Table 3e (continued)

Industry	Commodity																
	Milk, Whole Fluid, Unprocessed	Fresh Cream	Butter	Cheese, Cheddar & Processed	Milk Evaporated	Ice Cream	Other Dairy Prod.	Rice Unmilled	Wheat Unmilled	Barley, Oats, Rye, Corn, Grain Nes.	Wheat Flour	Fruits, Fresh, Ex. Tropical	Vegetables, Fresh	Veg. Fresh, Frozen, Dried & Preserved	Vegetables & Preparations Canned	Fruits, Berries, Dried, Crystalized	Fruits & Preparations Canned
Agriculture	1.0750	0.6265	0.6291	0.6281	0.6266	0.5780	0.6226	0.0	1.0749	1.0729	0.3862	1.0706	1.0000	0.1502	0.1494	0.1687	0.1821
Forestry	0.0087	0.0089	0.0089	0.0089	0.0089	0.0087	0.0089	0.0	0.0087	0.0087	0.0071	0.0087	0.0000	0.0092	0.0092	0.0089	0.0089
Slaughtering & Meat Processors	0.0069	0.0071	0.0071	0.0250	0.0071	0.0070	0.0072	0.0	0.0069	0.0069	0.0092	0.0069	0.0000	0.0223	0.0246	0.0197	0.0192
Poultry Processors	0.0003	0.0009	0.0009	0.0005	0.0005	0.0006	0.0006	0.0	0.0003	0.0003	0.0005	0.0006	0.0000	0.0127	0.0127	0.0109	0.0104
Dairy Factories	0.0042	1.1246	1.1168	1.1055	1.1251	1.0294	1.1164	0.0	0.0042	0.0042	0.0049	0.0042	0.0000	0.0151	0.0150	0.0765	0.1061
Fish Products Industry	0.0012	0.0011	0.0011	0.0011	0.0011	0.0010	0.0011	0.0	0.0012	0.0012	0.0014	0.0054	0.0000	0.0015	0.0015	0.0112	0.0014
Fruit & Veg. Processors	0.0009	0.0040	0.0040	0.0040	0.0040	0.0041	0.0046	0.0	0.0009	0.0009	0.0012	0.0009	0.0000	1.0013	1.0039	1.8428	0.7933
Feed Manufacturers	0.1089	0.0638	0.0640	0.0640	0.0638	0.0589	0.0634	0.0	0.1090	0.1088	0.0775	0.1084	0.0000	0.0283	0.0165	0.0184	0.0197
Flour & Breakfast Cereal Ind.	0.0075	0.0048	0.0049	0.0049	0.0048	0.0051	0.0050	0.0	0.0075	0.0078	0.9744	0.0075	0.0000	0.0035	0.0030	0.0047	0.0057
Misc. Manufacturers	0.0001	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0	0.0001	0.0001	0.0001	0.0001	0.0000	0.0002	0.0002	0.0002	0.0011
Bakeries	0.0006	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0	0.0006	0.0006	0.0008	0.0006	0.0000	0.0008	0.0015	0.0008	0.0008
Confectionery Manufacturers	0.0002	0.0026	0.0025	0.0025	0.0026	0.0687	0.0026	0.0	0.0002	0.0002	0.0002	0.0002	0.0000	0.0013	0.0013	0.0027	0.0014
Sugar Refineries	0.0010	0.0073	0.0072	0.0072	0.0073	0.0108	0.0074	0.0	0.0010	0.0010	0.0042	0.0010	0.0000	0.0248	0.0249	0.0231	0.0228
Vegetable Oil Mills	0.0097	0.0060	0.0060	0.0062	0.0060	0.0059	0.0061	0.0	0.0098	0.0098	0.0074	0.0097	0.0000	0.0031	0.0025	0.0037	0.0044
Misc. Food Ind.	0.0047	0.0112	0.0118	0.0129	0.0112	0.0365	0.0188	0.0	0.0047	0.0067	0.0110	0.0047	0.0000	0.0389	0.0403	0.1292	0.1740
Soft Drinks Manufacturers	0.0005	0.0010	0.0009	0.0009	0.0010	0.0009	0.0009	0.0	0.0005	0.0005	0.0007	0.0005	0.0000	0.0013	0.0013	0.0012	0.0012
Distillers	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0	0.0006	0.0006	0.0010	0.0006	0.0000	0.0009	0.0008	0.0008	0.0008
Breweries	0.0003	0.0004	0.0004	0.0004	0.0004	0.0005	0.0004	0.0	0.0003	0.0003	0.0008	0.0003	0.0000	0.0006	0.0006	0.0006	0.0006
Wineries	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0	0.0000	0.0000	0.0001	0.0000	0.0000	0.0002	0.0002	0.0039	0.0002
Leaf Tobacco Processing	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0	0.0001	0.0001	0.0001	0.0001	0.0000	0.0002	0.0002	0.0002	0.0002
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting & Trapping	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0	0.0005	0.0005	0.0006	0.0019	0.0000	0.0006	0.0007	0.0040	0.0006
Mines, Quarries, & Oil Wells	0.0150	0.0174	0.0174	0.0174	0.0174	0.0172	0.0174	0.0	0.0150	0.0150	0.0150	0.0149	0.0000	0.0201	0.0200	0.0194	0.0194
Manufacturing Except Food	0.1871	0.2517	0.2513	0.2511	0.2517	0.2510	0.2518	0.0	0.1871	0.1872	0.2158	0.1871	0.1846	0.3335	0.3336	0.3197	0.3175
Communications	0.0118	0.0189	0.0188	0.0189	0.0189	0.0194	0.0189	0.0	0.0118	0.0118	0.0265	0.0118	0.0119	0.0227	0.0228	0.0228	0.0227
Transportation & Storage	0.0425	0.0627	0.0626	0.0627	0.0627	0.0623	0.0628	0.0	0.0425	0.0426	0.1611	0.0425	0.0426	0.0635	0.0628	0.0634	0.0638
Elec. Power, Gas, Other Utilities	0.0137	0.0165	0.0165	0.0165	0.0165	0.0160	0.0165	0.0	0.0137	0.0137	0.0151	0.0137	0.0137	0.0141	0.0140	0.0139	0.0139
Wholesale Trade	0.0450	0.0484	0.0484	0.0485	0.0483	0.0474	0.0483	0.0	0.0450	0.0450	0.0610	0.0451	0.0450	0.0495	0.0530	0.0558	0.0483
Retail Trade	0.0174	0.0175	0.0175	0.0178	0.0175	0.0171	0.0175	0.0	0.0174	0.0174	0.0166	0.0174	0.0174	0.0176	0.0177	0.0170	0.0169
Fin., Ins., Real Estate	0.0404	0.0405	0.0405	0.0405	0.0405	0.0400	0.0404	0.0	0.0404	0.0404	0.0400	0.0404	0.0404	0.0354	0.0356	0.0354	0.0352
Community Bus., Personal Serv.	0.0244	0.0438	0.0436	0.0436	0.0438	0.0445	0.0438	0.0	0.0244	0.0245	0.0497	0.0245	0.0244	0.0492	0.0493	0.0488	0.0488
Transportation Margins	0.0287	0.0432	0.0431	0.0431	0.0432	0.0421	0.0431	0.0	0.0287	0.0288	0.0886	0.0287	0.0288	0.0379	0.0374	0.0378	0.0383
Construction	0.0240	0.0199	0.0200	0.0200	0.0199	0.0190	0.0199	0.0	0.0240	0.0240	0.0188	0.0240	0.0240	0.0130	0.0129	0.0130	0.0132
Oper. Office, Lab & Food	0.0823	0.0958	0.0956	0.0957	0.0958	0.0921	0.0955	0.0	0.0823	0.0822	0.0834	0.0822	0.0821	0.0707	0.0706	0.0698	0.0700
Travel & Advertising Promotion	0.0112	0.0761	0.0759	0.0759	0.0761	0.0400	0.0764	0.0	0.0112	0.0114	0.0731	0.0113	0.0113	0.0620	0.0622	0.0623	0.0629
Multiplier	1.7755	2.5853	2.5798	2.5865	2.5854	2.5270	2.5808	0.0	1.7756	1.7761	2.3542	1.7764	1.7752	2.1063	2.1022	2.1111	2.1258

(Continued)

Table 3e (continued)

Industry	Commodity																
	Eggs in the Shell	Nuts, Edible, Not Shelled	Seeds Ex. Oil and Seed Grades	Oil Seeds, Nuts and Kernels	Nuts, Kernels and Seeds Prepared	Meal & Flour of Other Cereals & Veg.	Breakfast Cereal Products	Biscuits	Bread and Rolls	Other Baking Products	Cocoa and Chocolate	Chocolate Confectionery	Other Confectionery	Sugar	Molasses, Sugar Refinery Products	Oilseed, Meal & Cake	Maple Sugar & Syrup
Agriculture	1.0675	1.0546	1.0750	1.0735	0.0678	0.2025	0.3391	0.0751	0.0976	0.0968	0.0593	0.0561	0.0885	0.0577	0.0854	0.4396	0.4033
Forestry	0.0087	0.0087	0.0087	0.0087	0.0066	0.0070	0.0071	0.0077	0.0057	0.0058	0.0065	0.0064	0.0066	0.0025	0.0049	0.0053	0.0075
Slaughtering & Meat Processors	0.0069	0.0069	0.0069	0.0069	0.0052	0.0102	0.0084	0.0351	0.0207	0.0201	0.0042	0.0038	0.0050	0.0012	0.0069	0.0045	0.0094
Poultry Processors	0.0004	0.0004	0.0003	0.0003	0.0011	0.0021	0.0009	0.0008	0.0028	0.0028	0.0007	0.0005	0.0007	0.0002	0.0026	0.0004	0.0021
Dairy Factories	0.0043	0.0044	0.0042	0.0042	0.0277	0.0089	0.0056	0.0147	0.0253	0.0243	0.0314	0.0329	0.0878	0.0010	0.0063	0.0025	0.0090
Fish Products Industry	0.0012	0.0012	0.0012	0.0012	0.0008	0.0015	0.0013	0.0011	0.0012	0.0012	0.0006	0.0005	0.0006	0.0002	0.0009	0.0012	0.0014
Fruit & Veg. Processors	0.0009	0.0010	0.0009	0.0009	0.0046	0.0106	0.0021	0.0061	0.0165	0.0234	0.0039	0.0038	0.0046	0.0007	0.1140	0.0007	0.0050
Feed Manufacturers	0.1081	0.1068	0.1089	0.1088	0.0077	0.0323	0.0391	0.0115	0.0162	0.0158	0.0066	0.0063	0.0097	0.0060	0.0095	0.0453	0.0419
Flour & Breakfast Cereal Ind.	0.0076	0.0078	0.0075	0.0075	0.0079	0.3485	0.8313	0.0717	0.1437	0.1350	0.0051	0.0044	0.0065	0.0006	0.0087	0.0033	0.0174
Bisc. Manufacturers	0.0001	0.0001	0.0001	0.0001	0.0006	0.0002	0.0001	0.9126	0.0005	0.0068	0.0060	0.0081	0.0302	0.0001	0.0001	0.0001	0.0002
Bakeries	0.0006	0.0006	0.0006	0.0006	0.0007	0.0007	0.0008	0.0607	0.9978	0.9277	0.0007	0.0036	0.0011	0.0003	0.0005	0.0006	0.0006
Confectionery Manufacturers	0.0002	0.0002	0.0002	0.0002	0.7831	0.0008	0.0004	0.0102	0.0069	0.0122	0.9557	1.0198	0.8941	0.0001	0.0006	0.0001	0.0009
Sugar Refineries	0.0011	0.0013	0.0010	0.0010	0.0486	0.0140	0.0068	0.0497	0.0231	0.0231	0.0553	0.0578	0.0532	1.0277	0.5444	0.0005	0.0135
Vegetable Oil Mills	0.0098	0.0099	0.0097	0.0098	0.0050	0.0144	0.0072	0.0025	0.0024	0.0029	0.0028	0.0019	0.0028	0.0007	0.0061	1.0073	0.0133
Misc. Food Ind.	0.0129	0.0269	0.0047	0.0063	0.2801	0.6940	0.1948	0.0687	0.0470	0.0859	0.1030	0.0340	0.0845	0.0021	0.3977	0.0033	0.7359
Soft Drinks Manufacturers	0.0005	0.0005	0.0005	0.0005	0.0004	0.0006	0.0007	0.0052	0.0005	0.0005	0.0004	0.0004	0.0005	0.0002	0.0004	0.0010	0.0005
Distillers	0.0006	0.0006	0.0006	0.0006	0.0008	0.0011	0.0009	0.0007	0.0005	0.0005	0.0007	0.0006	0.0006	0.0001	0.0006	0.0005	0.0010
Breweries	0.0003	0.0003	0.0003	0.0003	0.0007	0.0007	0.0007	0.0006	0.0005	0.0005	0.0007	0.0007	0.0006	0.0001	0.0004	0.0003	0.0006
Wineries	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0001	0.0000	0.0001
Leaf Tobacco Processing	0.0001	0.0001	0.0001	0.0001	0.0000	0.0001	0.0001	0.0003	0.0001	0.0001	0.0000	0.0000	0.0001	0.0000	0.0001	0.0003	0.0001
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting & Trapping	0.0005	0.0005	0.0005	0.0005	0.0004	0.0006	0.0006	0.0005	0.0005	0.0005	0.0003	0.0003	0.0003	0.0001	0.0004	0.0005	0.0006
Mines, Quarries, & Oil Wells	0.0150	0.0150	0.0150	0.0150	0.0148	0.0162	0.0151	0.0176	0.0134	0.0135	0.0144	0.0142	0.0146	0.0071	0.0121	0.0106	0.0162
Manufacturing Except Food	0.1876	0.1885	0.1871	0.1872	0.2435	0.2424	0.2234	0.2888	0.2039	0.2065	0.2409	0.2398	0.2429	0.0867	0.1765	0.1419	0.2347
Communications	0.0119	0.0121	0.0118	0.0118	0.0248	0.0252	0.0263	0.0221	0.0213	0.0217	0.0248	0.0248	0.0245	0.0072	0.0153	0.0120	0.0207
Transportation & Storage	0.0427	0.0430	0.0425	0.0425	0.0576	0.1013	0.1462	0.0632	0.0675	0.0674	0.0548	0.0537	0.0552	0.0237	0.0452	0.0670	0.0617
Elec. Power, Gas, Other Utilities	0.0137	0.0137	0.0137	0.0137	0.0113	0.0127	0.0144	0.0127	0.0125	0.0124	0.0112	0.0112	0.0115	0.0074	0.0096	0.0132	0.0121
Wholesale Trade	0.0450	0.0450	0.0450	0.0450	0.0376	0.0491	0.0577	0.0473	0.0498	0.0607	0.0365	0.0361	0.0373	0.0332	0.0386	0.0377	0.0435
Retail Trade	0.0174	0.0173	0.0174	0.0174	0.0121	0.0137	0.0158	0.0130	0.0160	0.0158	0.0121	0.0122	0.0124	0.0044	0.0087	0.0109	0.0137
Fin., Ins., Real Estate	0.0403	0.0402	0.0404	0.0404	0.0347	0.0336	0.0385	0.0371	0.0414	0.0411	0.0357	0.0362	0.0361	0.0233	0.0272	0.0244	0.0333
Community Bus., Personal Serv.	0.0246	0.0250	0.0244	0.0245	0.0530	0.0493	0.0500	0.0440	0.0539	0.0536	0.0538	0.0541	0.0531	0.0136	0.0307	0.0224	0.0415
Transportation Margins	0.0288	0.0290	0.0287	0.0288	0.0306	0.0569	0.0803	0.0376	0.0415	0.0410	0.0284	0.0276	0.0292	0.0157	0.0273	0.0322	0.0369
Construction	0.0239	0.0238	0.0240	0.0240	0.0094	0.0133	0.0174	0.0111	0.0121	0.0120	0.0092	0.0091	0.0098	0.0062	0.0085	0.0132	0.0146
Oper. Office, Lab & Food	0.0820	0.0816	0.0823	0.0822	0.0535	0.0618	0.0778	0.0584	0.0722	0.0709	0.0542	0.0545	0.0565	0.0327	0.0434	0.0637	0.0602
Travel & Advertising Promotion	0.0118	0.0127	0.0112	0.0113	0.0207	0.0720	0.0758	0.0648	0.0523	0.0543	0.0802	0.0800	0.0775	0.0088	0.0419	0.0173	0.0605
Multiplier	1.7770	1.7797	1.7755	1.7758	1.9136	2.1055	2.2870	2.0535	2.0679	2.0569	1.9003	1.8956	1.9387	1.3716	1.6754	1.9839	1.9141

(Continued)

Table 3e (continued)

Industry	Commodity: Prepared Cake & Similar Mixes	Beet Pulp	Soups, Dried & Soup Mixes & Bases	Coffee, Roasted, Ground, Prepared	Tea	Potato Chips & Similar Products	Nuts, Roast Etc.	Soft Drink Concentrates & Syrup	Carbonated Bev. Soft Drinks	Soups Canned	Pickles, Relishes, Other Sauces	Vinegar	Other Food Preparations	Fish Products	Mustard Mayonnaise	Honey and Beeswax	Malt, Malt Flour, & Wheat Starch
Agriculture	0.1709	0.0577	0.1003	0.1024	0.1056	0.1056	0.1524	0.0212	0.0156	0.1486	0.1553	0.1495	0.2293	0.1114	0.4178	0.6748	0.1070
Forestry	0.0071	0.0025	0.0071	0.0068	0.0070	0.0070	0.0107	0.0015	0.0102	0.0092	0.0091	0.0092	0.0092	0.0055	0.0083	0.0682	0.0070
Slaughtering & Meat Processors	0.0163	0.0012	0.0123	0.0101	0.0105	0.0105	0.0111	0.0062	0.0059	0.0222	0.0264	0.0223	0.1002	0.0055	0.0092	0.0653	0.0105
Poultry Processors	0.0026	0.0002	0.0020	0.0025	0.0029	0.0029	0.0027	0.0009	0.0008	0.0128	0.0211	0.0130	0.0103	0.0012	0.0021	0.0014	0.0029
Dairy Factories	0.0099	0.0010	0.0124	0.0166	0.0111	0.0111	0.0122	0.0035	0.0030	0.0154	0.0148	0.0152	0.1059	0.0017	0.6745	0.0155	0.0110
Fish Products Industry	0.0015	0.0002	0.0015	0.0015	0.0016	0.0016	0.0016	0.0022	0.0022	0.0014	0.0014	0.0014	0.0014	1.0256	0.0012	0.0013	0.0016
Fruit & Veg. Processors	0.0262	0.0007	0.1093	0.0065	0.0068	0.0070	0.0565	0.0030	0.0017	1.0165	0.9646	1.0363	0.8059	0.0012	0.0716	0.0033	0.0067
Feed Manufacturers	0.0198	0.0060	0.0150	0.0119	0.0123	0.0123	0.0351	0.0044	0.0038	0.0165	0.0171	0.0165	0.0245	0.0028	0.0431	0.0690	0.0124
Flour & Breakfast Cereal Ind.	0.2473	0.0006	0.0282	0.0209	0.0218	0.0218	0.0209	0.0022	0.0009	0.0051	0.0036	0.0025	0.0036	0.0009	0.0102	0.0132	0.0269
Misc. Manufacturers	0.0002	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001	0.0001	0.0002	0.0002	0.0002	0.0036	0.0001	0.0004	0.0001	0.0002
Bakeries	0.0146	0.0003	0.0686	0.0006	0.0006	0.0006	0.0007	0.0011	0.0011	0.0192	0.0008	0.0008	0.0008	0.0033	0.0008	0.0006	0.0006
Confectionery Manufacturers	0.0032	0.0001	0.0016	0.0011	0.0012	0.0020	0.0142	0.0003	0.0002	0.0014	0.0013	0.0013	0.0013	0.0001	0.0138	0.0006	0.0012
Sugar Refineries	0.0160	1.0277	0.0200	0.0183	0.0191	0.0191	0.0181	0.0791	0.0830	0.0251	0.0245	0.0252	0.0226	0.0004	0.0129	0.0083	0.0190
Vegetable Oil Mills	0.0123	0.0007	0.0127	0.0142	0.0148	0.0148	0.0139	0.0018	0.0010	0.0022	0.0030	0.0021	0.0038	0.0005	0.0086	0.0117	0.0148
Misc. Food Ind.	0.7832	0.0021	0.3877	1.0150	1.0601	1.0591	0.8625	0.0765	0.0128	0.0164	0.0740	0.0149	0.0436	0.0015	0.3566	0.4303	1.0547
Soft Drinks Manufacturers	0.0006	0.0002	0.0006	0.0005	0.0005	0.0005	0.0008	1.0165	1.0834	0.0013	0.0013	0.0014	0.0180	0.0019	0.0008	0.0005	0.0005
Distillers	0.0011	0.0001	0.0011	0.0011	0.0012	0.0012	0.0012	0.0017	0.0017	0.0008	0.0008	0.0008	0.0009	0.0006	0.0008	0.0009	0.0012
Breweries	0.0007	0.0001	0.0007	0.0007	0.0007	0.0007	0.0007	0.0008	0.0008	0.0006	0.0006	0.0006	0.0005	0.0002	0.0005	0.0005	0.0007
Wineries	0.0001	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0152	0.0000	0.0001	0.0001	0.0001
Leaf Tobacco Processing	0.0001	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0008	0.0009	0.0002	0.0002	0.0002	0.0002	0.0007	0.0001	0.0001	0.0001
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting & Trapping	0.0006	0.0001	0.0006	0.0006	0.0007	0.0007	0.0007	0.0009	0.0009	0.0006	0.0006	0.0006	0.0006	0.3504	0.0006	0.0006	0.0007
Mines, Quarries, & Oil Wells	0.0163	0.0071	0.0169	0.0164	0.0168	0.0168	0.0181	0.0220	0.0224	0.0200	0.0199	0.0202	0.0198	0.0127	0.0173	0.0160	0.0168
Manufacturing Except Food	0.2477	0.0867	0.2603	0.2489	0.2558	0.2553	0.2798	0.3832	0.3915	0.3344	0.3309	0.3369	0.3245	0.1943	0.2585	0.2219	0.2556
Communications	0.0250	0.0072	0.0242	0.0252	0.0246	0.0246	0.0258	0.0302	0.0305	0.0227	0.0228	0.0227	0.0222	0.0169	0.0211	0.0171	0.0246
Transportation & Storage	0.0911	0.0237	0.0693	0.0688	0.0703	0.0703	0.0697	0.0632	0.0628	0.0628	0.0631	0.0627	0.0622	0.0589	0.0651	0.0539	0.0708
Elec. Power, Gas, Other Utilities	0.0123	0.0074	0.0118	0.0117	0.0114	0.0114	0.0122	0.0138	0.0140	0.0141	0.0140	0.0141	0.0143	0.0114	0.0146	0.0128	0.0114
Wholesale Trade	0.0472	0.0332	0.0439	0.0417	0.0429	0.0429	0.0439	0.0529	0.0535	0.0494	0.0492	0.0494	0.0498	0.0494	0.0465	0.0442	0.0430
Retail Trade	0.0133	0.0044	0.0129	0.0546	0.0121	0.0121	0.0129	0.0155	0.0157	0.0178	0.0176	0.0178	0.0187	0.0106	0.0157	0.0152	0.0121
Fin., Ins., Real Estate	0.0328	0.0233	0.0315	0.0320	0.0302	0.0302	0.0316	0.0389	0.0394	0.0357	0.0354	0.0356	0.0360	0.0328	0.0368	0.0363	0.0303
Community Bus., Personal Serv.	0.0494	0.0136	0.0495	0.0485	0.0491	0.0491	0.0484	0.0631	0.0640	0.0494	0.0491	0.0493	0.0478	0.0325	0.0460	0.0346	0.0491
Transportation Margins	0.0515	0.0157	0.0403	0.0394	0.0406	0.0406	0.0419	0.0335	0.0330	0.0375	0.0376	0.0374	0.0377	0.0304	0.0418	0.0336	0.0408
Construction	0.0124	0.0062	0.0108	0.0106	0.0104	0.0104	0.0116	0.0117	0.0118	0.0130	0.0130	0.0130	0.0141	0.0115	0.0162	0.0185	0.0104
Oper. Office, Lab & Food	0.0587	0.0327	0.0539	0.0507	0.0504	0.0504	0.0565	0.0736	0.0751	0.0712	0.0703	0.0712	0.0736	0.0572	0.0788	0.0694	0.0505
Travel & Advertising Promotion	0.0797	0.0088	0.0283	0.0804	0.0824	0.0824	0.0753	0.1043	0.1057	0.0617	0.0625	0.0610	0.0580	0.0207	0.0535	0.0402	0.0823
Multiplier	2.0656	1.3716	1.9849	1.9551	1.9756	1.9756	2.0452	2.1980	2.1496	2.1054	2.1061	2.1062	2.1801	1.9548	2.3460	1.8628	1.9776

(Continued)

Table 3e (continued)

Industry	Commodity: Alcoholic Beverages Distilled	Alcohol, Natural Ethyl	Brewers & Distillers' Grains	Ale, Beer, Stout & Porter	Wines	Tobacco Processed, Unmanufactured	Cigarettes	Tobacco Mfg. Ex. Cigarettes	Tobacco Raw	Veg., Oils & Fats, Crude	Feeds of Animal Origin Nes.	Primary or Concentrated Feeds	Feed for Commercial Livestock	Feeds, Grain Origin Nes.	Feeds of Veg. Origin Nes.	Pet Feeds
Agriculture	0.0534	0.0545	0.0514	0.0119	0.1001	0.8905	0.2827	0.2808	1.0750	0.4393	0.7555	0.2982	0.3016	0.3048	0.2968	0.3591
Forestry	0.0061	0.0061	0.0061	0.0060	0.0067	0.0079	0.0079	0.0078	0.0087	0.0053	0.0084	0.0062	0.0062	0.0062	0.0061	0.0066
Slaughtering & Meat Processors	0.0037	0.0036	0.0050	0.0030	0.0025	0.0081	0.0042	0.0042	0.0060	0.0045	1.0729	0.0491	0.0488	0.0299	0.0497	0.2372
Poultry Processors	0.0006	0.0006	0.0007	0.0006	0.0004	0.0005	0.0005	0.0005	0.0003	0.0004	0.0085	0.0007	0.0007	0.0006	0.0007	0.0009
Dairy Factories	0.0019	0.0019	0.0027	0.0019	0.0019	0.0041	0.0021	0.0021	0.0042	0.0025	0.0067	0.0183	0.0311	0.0117	0.0185	0.0154
Fish Products Industry	0.0010	0.0010	0.0011	0.0005	0.0010	0.0023	0.0011	0.0011	0.0012	0.0012	0.0021	0.0087	0.0086	0.0052	0.0088	0.0067
Fruit & Veg. Processors	0.0014	0.0014	0.0015	0.0009	0.0039	0.0011	0.0008	0.0008	0.0009	0.0007	0.0014	0.0038	0.0038	0.0030	0.0039	0.0038
Feed Manufacturers	0.0061	0.0062	0.0359	0.0015	0.0106	0.0916	0.0293	0.0291	0.1089	0.0452	0.1311	1.1156	1.1072	0.6254	1.1317	0.8090
Flour & Breakfast Cereal Ind.	0.0009	0.0009	0.0026	0.0028	0.0010	0.0065	0.0022	0.0022	0.0075	0.0033	0.0067	0.0321	0.0283	0.3824	0.0174	0.0163
Misc. Manufacturers	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Bakeries	0.0008	0.0008	0.0007	0.0006	0.0005	0.0009	0.0007	0.0007	0.0006	0.0006	0.0008	0.0007	0.0007	0.0008	0.0007	0.0007
Confectionery Manufacturers	0.0001	0.0001	0.0002	0.0001	0.0001	0.0002	0.0001	0.0001	0.0002	0.0001	0.0002	0.0007	0.0007	0.0005	0.0007	0.0007
Sugar Refineries	0.0015	0.0020	0.0023	0.0014	0.0236	0.0010	0.0011	0.0010	0.0010	0.0006	0.0014	0.0067	0.0068	0.0052	0.0068	0.0073
Vegetable Oil Mills	0.0008	0.0009	0.0032	0.0012	0.0012	0.0082	0.0028	0.0028	0.0097	1.0066	0.0181	0.0632	0.0627	0.0369	0.0641	0.0495
Misc. Food Ind.	0.0101	0.0099	0.0642	0.0670	0.0019	0.0044	0.0027	0.0026	0.0047	0.0041	0.0086	0.0380	0.0378	0.0256	0.0384	0.1583
Soft Drinks Manufacturers	0.0009	0.0009	0.0007	0.0003	0.0005	0.0020	0.0009	0.0009	0.0005	0.0010	0.0008	0.0006	0.0006	0.0006	0.0006	0.0006
Distillers	1.0303	1.0060	0.7018	0.0007	0.0066	0.0010	0.0009	0.0009	0.0006	0.0005	0.0009	0.0051	0.0051	0.0032	0.0052	0.0039
Breweries	0.0007	0.0007	0.2560	1.0009	0.0005	0.0003	0.0007	0.0007	0.0003	0.0003	0.0005	0.0021	0.0021	0.0015	0.0021	0.0017
Wineries	0.0007	0.0246	0.0003	0.0001	1.0022	0.0000	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0001
Leaf Tobacco Processing	0.0002	0.0002	0.0002	0.0000	0.0001	1.0007	0.3137	0.3115	0.0001	0.0003	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.9931	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting & Trapping	0.0005	0.0005	0.0005	0.0003	0.0004	0.0009	0.0005	0.0005	0.0005	0.0005	0.0008	0.0031	0.0031	0.0019	0.0031	0.0024
Mines, Quarries, & Oil Wells	0.0143	0.0143	0.0143	0.0130	0.0140	0.0141	0.0153	0.0153	0.0150	0.0106	0.0165	0.0219	0.0219	0.0179	0.0220	0.0203
Manufacturing Except Food	0.2258	0.2263	0.2266	0.2280	0.2465	0.1311	0.2648	0.2636	0.1871	0.1420	0.2186	0.1933	0.1940	0.1935	0.1929	0.2040
Communications	0.0258	0.0257	0.0253	0.0245	0.0196	0.0129	0.0232	0.0233	0.0118	0.0120	0.0190	0.0202	0.0202	0.0245	0.0201	0.0205
Transportation & Storage	0.0550	0.0548	0.0542	0.0425	0.0429	0.0543	0.0485	0.0486	0.0425	0.0670	0.0606	0.1230	0.1221	0.1317	0.1224	0.1046
Elec. Power, Gas, Other Utilities	0.0112	0.0111	0.0119	0.0137	0.0086	0.0139	0.0106	0.0106	0.0137	0.0132	0.0156	0.0142	0.0143	0.0140	0.0142	0.0141
Wholesale Trade	0.0316	0.0319	0.0311	0.0241	0.0474	0.0541	0.0299	0.0368	0.0450	0.0377	0.0594	0.0672	0.0670	0.1497	0.0673	0.0629
Retail Trade	0.0123	0.0122	0.0120	0.0110	0.0089	0.0165	0.0127	0.0127	0.0174	0.0109	0.0351	0.0159	0.0160	0.0158	0.0159	0.0191
Fin., Ins., Real Estate	0.0284	0.0283	0.0269	0.0221	0.0236	0.0491	0.0377	0.0378	0.0404	0.0244	0.0386	0.0309	0.0310	0.0364	0.0307	0.0321
Community Bus., Personal Serv.	0.0766	0.0756	0.0737	0.0733	0.0335	0.0266	0.0512	0.0512	0.0244	0.0225	0.0358	0.0359	0.0359	0.0424	0.0357	0.0373
Transportation Margins	0.0253	0.0253	0.0253	0.0171	0.0243	0.0388	0.0239	0.0239	0.0287	0.0322	0.0408	0.0808	0.0804	0.0779	0.0807	0.0684
Construction	0.0090	0.0090	0.0092	0.0087	0.0083	0.0237	0.0186	0.0186	0.0240	0.0132	0.0221	0.0159	0.0159	0.0164	0.0158	0.0164
Oper. Office, Lab & Food	0.0503	0.0501	0.0485	0.0406	0.0415	0.0852	0.0528	0.0528	0.0823	0.0637	0.0903	0.0764	0.0766	0.0763	0.0763	0.0757
Travel & Advertising Promotion	0.0971	0.0963	0.0952	0.0988	0.0606	0.0141	0.0843	0.0841	0.0112	0.0174	0.0235	0.0314	0.0313	0.0493	0.0308	0.0358
Multiplier	1.7846	1.7837	1.7913	1.7193	1.7455	2.6169	2.3286	2.3229	1.7755	1.9839	2.7017	2.3802	2.3826	2.2912	2.3806	2.3914

(Continued)

Table 3e (continued)

Industry	Commodity: Infant & Junior Foods Canned	Hops Including Lupulin	Hay Forage & Straw	Hides & Skins, Raw Nec.	Mink Skins, Ranch & Undressed	Wool in Grease	Serv. Incidental to Ag. & Forestry	Forestry Prod.	Fishing & Trapping Prod.	Textile Products	Knitted Products & Clothing	Lumber, Sawmill, Other Wood Products	Furniture & Fixtures	Paper & Paper Products	Printing & Publishing	Metallic Ores & Concentrates
Agriculture	0.1225	1.0750	0.9027	0.6878	1.0750	1.0750	0.9612	0.0456	0.0024	0.0066	0.0065	0.0065	0.0065	0.0066	0.0065	0.0051
Forestry	0.0142	0.0087	0.0082	0.0081	0.0087	0.0087	0.0894	1.0093	0.0056	0.0352	0.0354	0.0385	0.0352	0.0354	0.0353	0.0057
Slaughtering & Meat Processors	0.0186	0.0069	0.0160	0.8763	0.0069	0.0069	0.0065	0.0042	0.0010	0.0029	0.0029	0.0029	0.0029	0.0029	0.0029	0.0027
Poultry Processors	0.0106	0.0003	0.0004	0.0005	0.0003	0.0003	0.0004	0.0007	0.0002	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0005
Dairy Factories	0.0126	0.0042	0.0072	0.0052	0.0042	0.0042	0.0040	0.0028	0.0008	0.0016	0.0016	0.0016	0.0016	0.0016	0.0016	0.0017
Fish Products Industry	0.0012	0.0012	0.0028	0.0015	0.0012	0.0012	0.0011	0.0006	0.0002	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004
Fruit & Veg. Processors	0.8405	0.0009	0.0015	0.0011	0.0009	0.0009	0.0009	0.0010	0.0003	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006
Feed Manufacturers	0.0135	0.1089	0.3261	0.0716	0.1089	0.1089	0.0975	0.0064	0.0004	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0007
Flour & Breakfast Cereal Ind.	0.0021	0.0075	0.0096	0.0054	0.0075	0.0075	0.0068	0.0008	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Misc. Manufacturers	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Bakeries	0.0008	0.0006	0.0006	0.0007	0.0006	0.0006	0.0007	0.0012	0.0003	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0008
Confectionery Manufacturers	0.0011	0.0002	0.0003	0.0002	0.0002	0.0002	0.0002	0.0001	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001
Sugar Refineries	0.0204	0.0010	0.0022	0.0010	0.0010	0.0010	0.0009	0.0004	0.0001	0.0002	0.0002	0.0002	0.0002	0.0003	0.0002	0.0002
Vegetable Oil Mills	0.0019	0.0097	0.0213	0.0130	0.0097	0.0097	0.0087	0.0008	0.0002	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0004
Misc. Food Ind.	0.0123	0.0047	0.0119	0.0060	0.0047	0.0047	0.0043	0.0014	0.0005	0.0015	0.0015	0.0015	0.0015	0.0018	0.0015	0.0010
Soft Drinks Manufacturers	0.0012	0.0005	0.0005	0.0007	0.0005	0.0005	0.0005	0.0006	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0004
Distillers	0.0007	0.0006	0.0016	0.0006	0.0006	0.0006	0.0006	0.0002	0.0001	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0002
Breweries	0.0005	0.0003	0.0007	0.0004	0.0003	0.0003	0.0003	0.0002	0.0001	0.0003	0.0003	0.0003	0.0003	0.0007	0.0003	0.0002
Wineries	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Leaf Tobacco Processing	0.0002	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0006	0.0005	0.0011	0.0006	0.0005	0.0005	0.0005	0.0004	1.0079	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0003
Mines, Quarries, & Oil Wells	0.0294	0.0150	0.0165	0.0157	0.0150	0.0150	0.0143	0.0120	0.0144	0.0688	0.0691	0.0689	0.0688	0.0691	0.0691	0.9920
Manufacturing Except Food	0.5359	0.1871	0.1883	0.2173	0.1871	0.1871	0.1816	0.1959	0.2175	1.3823	1.3893	1.3857	1.3838	1.3887	1.3884	0.2180
Communications	0.0223	0.0118	0.0136	0.0210	0.0118	0.0118	0.0129	0.0149	0.0088	0.0207	0.0206	0.0206	0.0207	0.0206	0.0206	0.0122
Transportation & Storage	0.0605	0.0425	0.0594	0.0533	0.0425	0.0425	0.0473	0.1049	0.0291	0.0514	0.0514	0.0516	0.0514	0.0514	0.0514	0.0306
Elec. Power, Gas, Other Utilities	0.0149	0.0137	0.0138	0.0159	0.0137	0.0137	0.0133	0.0079	0.0047	0.0184	0.0184	0.0184	0.0184	0.0184	0.0184	0.0242
Wholesale Trade	0.0474	0.0450	0.0498	0.0516	0.0450	0.0450	0.0432	0.0346	0.0292	0.0430	0.0388	0.0390	0.0433	0.0390	0.0398	0.0254
Retail Trade	0.0164	0.0174	0.0171	0.1670	0.0174	0.0174	0.0496	0.0219	0.0109	0.0119	0.0107	0.0104	0.0104	0.0104	0.0104	0.0103
Fin., Ins., Real Estate	0.0353	0.0404	0.0383	0.0437	0.0404	0.0404	0.0448	0.0817	0.0234	0.0340	0.0339	0.0340	0.0339	0.0339	0.0339	0.0853
Community Bus., Personal Serv.	0.0485	0.0244	0.0268	0.0351	0.0244	0.0244	0.0295	0.0828	0.0194	0.0448	0.0448	0.0449	0.0448	0.0448	0.0448	0.0525
Transportation Margins	0.0358	0.0287	0.0398	0.0345	0.0287	0.0287	0.0271	0.0145	0.0132	0.0288	0.0289	0.0288	0.0288	0.0289	0.0289	0.0142
Construction	0.0130	0.0240	0.0223	0.0213	0.0240	0.0240	0.0238	0.0248	0.0063	0.0128	0.0128	0.0128	0.0128	0.0128	0.0128	0.0370
Oper. Office, Lab & Food	0.0706	0.0823	0.0810	0.0855	0.0823	0.0823	0.0872	0.1527	0.0264	0.0681	0.0682	0.0685	0.0681	0.0682	0.0682	0.0948
Travel & Advertising Promotion	0.0564	0.0112	0.0154	0.0244	0.0112	0.0112	0.0123	0.0149	0.0076	0.0333	0.0332	0.0321	0.0333	0.0332	0.0332	0.0148
Multiplier	2.0624	1.7755	1.9040	2.4673	1.7755	1.7755	1.7715	1.8404	1.4313	1.8722	1.8743	1.8742	1.8727	1.8743	1.8740	1.6325

(Continued)

Table 3e (continued)

Industry	Minerals Fuels	Non-Metallic Minerals	Services Incidental to Mining	Primary Metal Products	Metal Fabricated Products	Non-Metallic Minerals Products	Pet & Coal Products	Chemicals, Chemical Products	Nitrogen Fixation Compounds Nes.	Autos, Trucks, Other Transp. Equipment	Transportation & Storage	Elec. & Communications Products	Communication Services	Other Utilities	Misc. Manuf. Products	Non-Residential Construction
	Commodity															
Agriculture	0.0050	0.0053	0.0050	0.0065	0.0066	0.0065	0.0065	0.0180	0.0318	0.0065	0.0046	0.0064	0.0019	0.0018	0.0074	0.0058
Forestry	0.0034	0.0045	0.0034	0.0354	0.0353	0.0352	0.0346	0.0332	0.0336	0.0352	0.0044	0.0342	0.0015	0.0018	0.0345	0.0117
Slaughtering & Meat Processors	0.0027	0.0027	0.0027	0.0029	0.0029	0.0029	0.0029	0.0123	0.0030	0.0029	0.0022	0.0029	0.0010	0.0010	0.0030	0.0026
Poultry Processors	0.0005	0.0005	0.0005	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0002	0.0002	0.0016	0.0004
Dairy Factories	0.0017	0.0018	0.0017	0.0016	0.0016	0.0016	0.0016	0.0018	0.0017	0.0016	0.0015	0.0016	0.0005	0.0006	0.0016	0.0017
Fish Products Industry	0.0004	0.0012	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0002	0.0002	0.0004	0.0005
Fruit & Veg. Processors	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0007	0.0006	0.0006	0.0006	0.0006	0.0002	0.0002	0.0006	0.0006
Feed Manufacturers	0.0007	0.0007	0.0007	0.0009	0.0013	0.0009	0.0009	0.0022	0.0035	0.0009	0.0008	0.0009	0.0002	0.0003	0.0010	0.0009
Flour & Breakfast Cereal Ind.	0.0003	0.0004	0.0003	0.0003	0.0003	0.0003	0.0003	0.0006	0.0005	0.0003	0.0003	0.0003	0.0001	0.0001	0.0003	0.0003
Misc. Manufacturers	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0001	0.0001
Bakeries	0.0008	0.0008	0.0008	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0006	0.0007	0.0006	0.0003	0.0003	0.0006	0.0007
Confectionery Manufacturers	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0010	0.0001	0.0001	0.0001	0.0001	0.0000	0.0000	0.0001	0.0001
Sugar Refineries	0.0002	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0005	0.0003	0.0002	0.0002	0.0002	0.0001	0.0001	0.0002	0.0002
Vegetable Oil Mills	0.0003	0.0004	0.0003	0.0009	0.0010	0.0009	0.0009	0.0110	0.0596	0.0009	0.0002	0.0009	0.0001	0.0001	0.0009	0.0004
Misc. Food Ind.	0.0009	0.0034	0.0009	0.0015	0.0015	0.0015	0.0015	0.0107	0.0016	0.0015	0.0008	0.0014	0.0003	0.0003	0.0014	0.0010
Soft Drinks Manufacturers	0.0004	0.0004	0.0004	0.0003	0.0003	0.0003	0.0003	0.0004	0.0004	0.0003	0.0003	0.0003	0.0001	0.0001	0.0003	0.0004
Distillers	0.0001	0.0001	0.0001	0.0004	0.0004	0.0004	0.0004	0.0005	0.0005	0.0004	0.0002	0.0004	0.0001	0.0001	0.0004	0.0003
Breweries	0.0001	0.0001	0.0001	0.0003	0.0003	0.0003	0.0003	0.0005	0.0003	0.0003	0.0002	0.0003	0.0001	0.0001	0.0003	0.0002
Wineries	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000
Leaf Tobacco Processing	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0002	0.0005	0.0002	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0003	0.0005	0.0001	0.0001	0.0005	0.0003
Mines, Quarries, & Oil Wells	1.0616	1.0248	1.0626	0.0692	0.0690	0.0731	0.0929	0.1118	0.0657	0.0689	0.0107	0.0669	0.0034	0.0303	0.0674	0.0295
Manufacturing Except Food	0.1297	0.1727	0.1284	1.3899	1.3867	1.3842	1.3597	1.3007	1.3173	1.3844	0.1498	1.3448	0.0557	0.0654	1.3550	0.4073
Communications	0.0115	0.0119	0.0115	0.0206	0.0206	0.0206	0.0204	0.0201	0.0201	0.0206	0.0293	0.0538	1.0291	0.0092	0.0211	0.0155
Transportation & Storage	0.0291	0.0299	0.0290	0.0514	0.0514	0.0513	0.0508	0.0508	0.0523	0.0558	1.1181	0.0510	0.0385	0.0207	0.0517	0.0481
Elec. Power, Gas, Other Utilities	0.0246	0.0244	0.0246	0.0184	0.0184	0.0185	0.0187	0.0186	0.0181	0.0184	0.0091	0.0180	0.0042	1.0004	0.0182	0.0074
Wholesale Trade	0.0244	0.0249	0.0244	0.0385	0.0409	0.0391	0.0382	0.0382	0.0385	0.0389	0.0324	0.0386	0.0072	0.0115	0.0641	0.0524
Retail Trade	0.0103	0.0103	0.0103	0.0104	0.0104	0.0104	0.0104	0.0106	0.0104	0.0104	0.0206	0.0104	0.0112	0.0049	0.0104	0.0211
Fin., Ins., Real Estate	0.0892	0.0872	0.0893	0.0339	0.0339	0.0341	0.0352	0.0362	0.0333	0.0339	0.0412	0.0334	0.0186	0.0260	0.0344	0.0339
Community Bus., Personal Serv.	0.0531	0.0528	0.0531	0.0448	0.0448	0.0448	0.0450	0.0449	0.0435	0.0448	0.0508	0.0443	0.0294	0.0236	0.0449	0.0634
Transportation Margins	0.0131	0.0137	0.0131	0.0289	0.0289	0.0288	0.0285	0.0284	0.0291	0.0288	0.0182	0.0281	0.0074	0.0100	0.0285	0.0272
Construction	0.0388	0.0379	0.0389	0.0128	0.0128	0.0129	0.0134	0.0140	0.0128	0.0129	0.0352	0.0130	0.0194	0.0461	0.0127	1.0079
Oper. Office, Lab & Food	0.0968	0.0957	0.0968	0.0682	0.0682	0.0683	0.0689	0.0695	0.0680	0.0682	0.0681	0.0666	0.0197	0.0267	0.0677	0.0473
Travel & Advertising Promotion	0.0135	0.0143	0.0134	0.0331	0.0332	0.0331	0.0327	0.0325	0.0322	0.0331	0.0199	0.0324	0.0105	0.0080	0.0337	0.0191
Multiplier	1.6143	1.6242	1.6140	1.8745	1.8738	1.8732	1.8682	1.8718	1.8809	1.8733	1.6216	1.8640	1.2614	1.2902	1.8656	1.8083

(Continued)

Table 3e (continued)

Industry	Repair Construction	Rubber, Leather, Plastic Products	Wholesale Margin	Retail Margin	Other Finance, Ins. & Real Estate	Business Services	Personal & Other Misc. Services	Transportation Margin	Operating Office & Lab & Food	Travel, Advertisement & Promotion	Imputed Rent, Owner Occupied Dwellings	Machinery & Equipment	Residential Construction	Nursery Stock & Related Mat.	Animal Mat. for Drugs & Perfume	Custom Work Meat & Food
	Commodity															
Agriculture	0.0058	0.0065	0.0153	0.0329	0.0034	0.0347	0.0324	0.0102	0.0329	0.0151	0.0023	0.0069	0.0058	1.0750	0.7561	0.3467
Forestry	0.0117	0.0353	0.0088	0.0026	0.0021	0.0035	0.0054	0.0062	0.0141	0.0120	0.0017	0.0352	0.0117	0.0087	0.0083	0.0076
Slaughtering & Meat Processors	0.0026	0.0029	0.0058	0.0021	0.0016	0.0239	0.0196	0.0051	0.0167	0.0083	0.0013	0.0032	0.0026	0.0069	1.0952	0.2641
Poultry Processors	0.0004	0.0004	0.0007	0.0004	0.0003	0.0054	0.0044	0.0009	0.0027	0.0018	0.0002	0.0004	0.0004	0.0003	0.0006	0.0267
Dairy Factories	0.0017	0.0016	0.0106	0.0012	0.0009	0.0098	0.0082	0.0039	0.0133	0.0038	0.0007	0.0016	0.0017	0.0042	0.0063	0.0239
Fish Products Industry	0.0005	0.0004	0.0030	0.0003	0.0003	0.0043	0.0036	0.0006	0.0016	0.0015	0.0002	0.0004	0.0005	0.0012	0.0018	0.1656
Fruit & Veg. Processors	0.0006	0.0006	0.0035	0.0004	0.0004	0.0043	0.0036	0.0014	0.0046	0.0016	0.0003	0.0009	0.0006	0.0009	0.0015	0.0317
Feed Manufacturers	0.0009	0.0009	0.0056	0.0034	0.0004	0.0038	0.0035	0.0014	0.0040	0.0018	0.0003	0.0010	0.0009	0.1089	0.0784	0.2110
Flour & Breakfast Cereal Ind.	0.0003	0.0003	0.0024	0.0004	0.0002	0.0018	0.0016	0.0007	0.0022	0.0008	0.0001	0.0005	0.0003	0.0075	0.0068	0.0264
Misc. Manufacturers	0.0001	0.0001	0.0005	0.0001	0.0001	0.0008	0.0006	0.0003	0.0009	0.0003	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Bakeries	0.0007	0.0006	0.0027	0.0005	0.0005	0.0059	0.0048	0.0016	0.0056	0.0021	0.0003	0.0007	0.0007	0.0006	0.0008	0.0287
Confectionery Manufacturers	0.0001	0.0001	0.0007	0.0000	0.0000	0.0003	0.0002	0.0001	0.0004	0.0001	0.0000	0.0002	0.0001	0.0002	0.0002	0.0005
Sugar Refineries	0.0002	0.0002	0.0008	0.0002	0.0001	0.0012	0.0010	0.0005	0.0017	0.0005	0.0001	0.0003	0.0002	0.0010	0.0019	0.0192
Vegetable Oil Mills	0.0004	0.0009	0.0008	0.0004	0.0001	0.0007	0.0007	0.0004	0.0013	0.0006	0.0001	0.0010	0.0004	0.0007	0.0159	0.0155
Misc. Food Ind.	0.0010	0.0015	0.0050	0.0007	0.0004	0.0041	0.0035	0.0018	0.0059	0.0024	0.0004	0.0017	0.0010	0.0047	0.0497	0.0423
Soft Drinks Manufacturers	0.0004	0.0003	0.0031	0.0003	0.0002	0.0018	0.0016	0.0008	0.0028	0.0008	0.0002	0.0004	0.0004	0.0005	0.0008	0.2040
Distillers	0.0003	0.0004	0.0008	0.0003	0.0002	0.0003	0.0003	0.0002	0.0004	0.0064	0.0002	0.0005	0.0003	0.0006	0.0007	0.0551
Breweries	0.0002	0.0003	0.0015	0.0003	0.0003	0.0002	0.0003	0.0002	0.0004	0.0070	0.0002	0.0003	0.0002	0.0003	0.0004	0.0008
Wineries	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0012	0.0000	0.0000	0.0000	0.0000	0.0000	0.0008
Leaf Tobacco Processing	0.0000	0.0000	0.0002	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0001	0.0002	0.0840
Tobacco Prod. Manufacturers	0.0000	0.0000	0.0004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0000	0.0001	0.0000	0.0000	0.0000	0.0000
Fishing, Hunting, & Trapping	0.0003	0.0005	0.0012	0.0002	0.0002	0.0025	0.0023	0.0004	0.0011	0.0010	0.0001	0.0005	0.0003	0.0005	0.0007	0.0567
Mines, Quarries, & Oil Wells	0.0295	0.0689	0.0176	0.0072	0.0094	0.0081	0.0111	0.0142	0.0303	0.0245	0.0047	0.0761	0.0295	0.0150	0.0159	0.0174
Manufacturing Except Food	0.4073	1.3857	0.3138	0.0931	0.0747	0.1265	0.1342	0.2210	0.5340	0.4454	0.0600	1.3795	0.4073	0.1871	0.2138	0.2435
Communications	0.0155	0.0207	0.0373	0.0376	0.0272	0.0449	0.0330	0.0257	0.0199	0.1557	0.0272	0.0205	0.0155	0.0118	0.0192	0.0213
Transportation & Storage	0.0481	0.0514	0.0605	0.0365	0.0252	0.0336	0.0404	0.8343	0.0572	0.2266	0.0215	0.0512	0.0481	0.0425	0.0581	0.0712
Elec. Power, Gas, Other Utilities	0.0074	0.0184	0.0101	0.0223	0.0079	0.0101	0.0150	0.0090	0.0112	0.0121	0.0074	0.0185	0.0074	0.0137	0.0155	0.0138
Wholesale Trade	0.0524	0.0419	0.8238	0.0149	0.0145	0.0225	0.0712	0.0481	0.1167	0.0509	0.0094	0.0385	0.0524	0.0450	0.0584	0.0548
Retail Trade	0.0211	0.0104	0.0113	0.9955	0.0116	0.0158	0.1341	0.0296	0.0693	0.0600	0.0063	0.0104	0.0211	0.0174	0.0354	0.0195
Fin., Ins., Real Estate	0.0339	0.0339	0.0510	0.0725	1.0309	0.0566	0.0655	0.0369	0.0321	0.0416	1.0726	0.0342	0.0339	0.0404	0.0387	0.0369
Community Bus., Personal Serv.	0.0634	0.0448	0.0533	0.0451	0.0449	1.0167	0.8259	0.0669	0.1424	0.3165	0.0365	0.0449	0.0634	0.0244	0.0363	0.0434
Transportation Margins	0.0272	0.0288	0.0191	0.0137	0.0138	0.0171	0.0168	0.8139	0.0392	0.0233	0.0135	0.0288	0.0272	0.0287	0.0389	0.0433
Construction	1.0079	0.0128	0.0099	0.0141	0.0823	0.0099	0.0203	0.0280	0.0105	0.0181	0.0765	0.0130	1.0079	0.0240	0.0220	0.0161
Oper. Office, Lab & Food	0.0473	0.0682	0.0511	0.0578	0.0301	0.0644	0.0629	0.2682	1.0508	0.0568	0.0287	0.0684	0.0473	0.0823	0.0895	0.0755
Travel & Advertising Promotion	0.0191	0.0332	0.0524	0.0372	0.0231	0.0296	0.0317	0.0198	0.0251	1.0265	0.0229	0.0330	0.0191	0.0112	0.0255	0.0471
Multiplier	1.8083	1.8732	1.5848	1.4943	1.4073	1.5650	1.5599	2.4525	2.2513	2.5272	1.3959	1.8731	1.8083	1.7755	2.6938	2.3155