WORKING PAPER

IDENTIFICATION OF INDUSTRIAL COMPLEXES
FROM THE INPUT-OUTPUT TABLES
OF CANADA & THE U.S.A.

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IDENTIFICATION OF INDUSTRIAL COMPLEXES FROM THE INPUT-OUTPUT TABLES OF CANADA & THE U.S.A.

by

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OBJECTIVE OF THE STUDY & CONCLUSIONS

(A Brief Summary)

The purpose of this study has been to identify industrial complexes from the Input-Output Tables of Canada, 1961 and 1966 and the U.S.A. 1963. The main idea behind the relevance of industrial complexes has been the notion that in stimulating growth centres for regional development, certain specific technical interdependencies among industries qualifying for a complex become a sine-qua-non. The latter has been captured by a criterion of maximal interdependence of industries from the national input-output tables which for Canada (1961 and 1966) were supplied by the Input-Output Division, Statistics Canada and for the U.S.A. (1963) was obtained from the Survey of Current Business, November, 1969. The study highlights the following important features hitherto unknown or loosely couched in general terms:

(1) As a methodological device of isolating industries having maximal interdependence this study has proposed a unique approach which is directly related to the problem and which respects the original backward and forward linkages derived from input-output tables. The factor analytic approaches available in the literature on the identification of complexes distort these linkages.

(2) 100 complexes for both Canada & the U.S.A. are reported[1]

1. See Tables A, B, C, pp 23-25.

here of which some twenty major complexes are further identified to be the dominant ones in both the economies. In Canada the major complexes are found to be in the nature of Steel Mills, Construction, Food and Beverage and Agriculture etc whereas in the U.S.A. the latter two types are also dominant (but Steel Mills is not).

(3) The structure of complexes in Canada has not significantly changed between 1961 and 1966.

(4) The study concentrates only on 165 goods producing industries in Canada and on 64 goods producing industries of the U.S.A. to the exclusion of 45 service industries of Canada and 23 similar industries of the U.S.A. Various experiments including service industries suggested only very round-about complexes which often begged interpretations and are, therefore, ignored.

(5) Special industrial complexes starting with any given industries, christened as "Island Industry Complexes", are also an additional attraction of the study. Very often when questions like "what industries are associated with, say, breweries" are raised, for example in a feasibility study, our method helps to identify these industries both as suppliers and receivers.

(6) Never before the identification of industrial complexes

has been so exhaustive both in search as well as in detail for large disaggregated input-output tables.

The policy implications of industrial complex analysis in the context of regional development are significant. DREE's policy formulation in terms of grants to specific firms or industries may also be considerably tempered by these considerations. These are:

(i) If industry A (or firm A) is considered to be eligible for grants by some criteria of financial and/or commercial viability of A, then A's viability cannot be presumed to be judged by its own performance only but must share its performance in some proportions to the linkages it maintains with other industries (or firms therefrom). In other words the whole industrial selection procedure and the exploration of economic opportunities should have to be cast in terms of discovering a group of industries rather than individual industries at least insofaras they are technically related which is what the industrial complexes reveal.

(ii) If a particular region has specific resources, say gypsum, the industrial complex approach helps to render the best block of industries, directly and indirectly linked with it, that is suited to its technical viability. This block of industries can then be looked for in the region in terms of its domestic production capabilities failing which the costs of imports may be calculated to evaluate the commercial viability of gypsum production in the region.

The above implications remain valid despite the fact industrial complexes are identified only from the national input-output tables since (a) regional input-output tables donot exist in the same detail one would like to have for meaningful results, and (b) regional input-output tables tell generally very little about technical linkages between industries which are better revealed by the national input-output tables.

The results of this study owe its origin and initial development to the Input-Output Division of Statistics Canada from whom subsequently the Economic Analysis Branch, Planning Division, Department of Regional Economic Expansion, took over the task. In the present form of this study, the Branch is grateful to the special services of Mr. J.S. Lewis of Regional Statistics, Research and Integration Division of Statistics Canada for providing various algorithms for testing complexes.

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IDENTIFICATION OF INDUSTRIAL COMPLEXES FROM THE INPUT-OUTPUT TABLES OF CANADA AND THE U.S.A.

Introduction

Studies in the structure of production following the input-output methodology have been for a long time related primarily to the question of the inter-industrial dependence or hierarchy of industries or sectors. The latter has evolved into some approaches to 'triangulation' following the attempts by Leontief (1963), Chenery and Watanabe (1958) and later those by Helmstader (1964), Lamel, Richter and Teufelsbauer (1972) and Korte and Oberhoffer (1969, 1971). However, large disaggregated input-output tables rarely conform to the idealism of the triangularized hierarchy. There are sets of industries mutually related by backward and forward linkages to an extent that they represent coherent groups such that they remain relatively unrelated to the remaining industries in terms of transactions taking place in the input-output (I-0) tables. Such a possibility was recognised implicitly by the 'balanced growth' protagonists like Nurske (1953), Rosenstein - Rodan (1943, 1957), Scitovsky (1954) and Lewis (1956) for industrial development[1] at large and explicitly by Isard, Schooler and Vietorisz (1959), Simpson and Tsukui (1965), Streit (1969) and Czamanski (1972). It has been suggested that external economies exist and they arise out of technical interdependence of industries or sectors; this idea has also been used to explain agglomeration economies (Hoover, 1948, Hirschman, 1964, Isard, 1956, Lösch, 1952, Ullman, 1964, Richter, 1969). However, this paper will be addressed particularly to the first question, namely, how to identify sets or groups of industries from disaggregated I-0 tables that have certain properties of maximal interdependence. In this vein an industrial complex in this paper will be defined as a group of industries that maximises a total linkage criterion, to be defined later, based on the backward and forward linkages derived from given I-0 tables. An outcome of this exercise is to show the existence[2] of different types of complexes

1. The first two authors stress balance in demand whereas the latter two stress balance in supply. See Hirschman (1964, pp 50-51).

2. This has been also noted by Simpson and Tsukui (19) where decomposability i.e. existence of separable submatrices (which are almost akin to our definition of complexes) has been their prime concern. However their procedure of decomposition does not seem to follow any optimization criterion, howsoever postulated. Moreover their approach is based only on the technical coefficients, aij's, and not on a^*_{ij}'s which we have encompassed in our subsequent discussions.

that are likely to arise in large I-0 tables which contrast with the conventional results of 'triangulation'. The basic data of our study refer to the input-output (I-0) tables of Canada, 1961 and 1966, and the I-0 table of the U.S.A. 1963. Section 1 of this paper deals with a review of the existing procedures together with a skeleton of the methodology used in the study; Section 2 provides the data with their implications; Section 3 offers various interpretations of the derived complexes.

1. Methods in Complex Analysis

Generally the procedures for deriving industrial complexes from I-0 tables stem from the following four coefficients as defined by (1) and (2) that pertain to any pair of industries, i and j.

$$a_{ij} = \frac{A_{ij}}{V_j}, \qquad a_{ji} = \frac{A_{ji}}{V_i} \qquad \ldots (1)$$

$$a^*_{ij} = \frac{A_{ij}}{V_i}, \qquad a^*_{ji} = \frac{A_{ji}}{V_j} \qquad \ldots (2)$$

where A_{ij} = dollar sales of industry i to industry j,
$i,j = 1,2,3,\ldots N,\ldots P.$

F_i = final demand of industry i.

V_i = gross dollar output of industry i.

and $$V_i = \sum_{j=1}^{P} A_{ij} + F_i \qquad \ldots (3)$$

Coefficients given by (1) are the usual Leontief backward linkages and those by (2) are the forward linkages.

There are, however, other alternative ways of defining linkages. For example, instead of having a denominator of V_i and V_j in (1) and (2) one can use V_i^* and V_j^* where $V_i^* = \sum_{j=1}^{N} A_{ij}$ and $V_j^* = \sum_{i=1}^{N} A_{ij}$. The coefficients then derived will be different from those in (1) and (2) as final demands are left out. If final demands are considered important as in Leontief schemes this procedure seems somewhat inadequate to reflect linkages in the whole economy. Finally, analysis may be conducted with special reference to a subset of industries, say N (N<P), instead of having the whole set of industries, P. This depends on the assumptions one may hold with respect to the importance of N industries vis-a-vis P-N industries which are left out of account[1].

Against this background it may be useful to have a short review of the existing procedures of identifying complexes which fall primarily in three categories:

(a) a specified industrial complex obtained from engineering information as developed by Isard - Schooler - Vietorisz in the case of petro-chemicals complex for Puerto-Rico;

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1. In the actual experiments with the I-O tables, for example, we have worked on the N material-goods industries and have left out P-N service industries. A similar procedure is followed by Streit (12).

(b) selection of combinations of pairs of industries that satisfy both the spatial and the economic linkages between industries where the economic linkages are derived from the national I-0 tables (Streit);

(c) the use of multivariate analysis e.g. the method of principal components, in the identification of industrial complexes from any given I-0 table (Czamanski) whether the latter refers to any particular region or nation.

As for (a) the question posed is specific, namely, what specific industrial products can be added or related to petro-chemicals that can render Puerto-Rico a comparative advantage in costs and/or revenues vis-a-vis an identical set of product-producing agents in the mainland U.S.A.. This type of problem is initialized with a certain product or group of products and then further products are added or linked to form a complex. In terms of detailed examination the Isard - Schooler - Vietorisz study is a classic of its type, but it requires much more information than can be derived from the I-0 tables at the national or regional levels. Such a study can be viewed as a necessary subsequent development and evaluation of complexes derived from more generalized information of I-0 tables. As an initial approach we offer a procedure of isolating a complex starting with any given industry (christened as an 'Island industry') in a given I-0 table. The details of the procedure will be pursued subsequently.

In (b) the procedure is basically subjective insofar as it is not clear whether the linkages, economic (technical)or spatial, between any pairs of industries can be additive and if so whether there exists any maximum (even if local) for the total linkages forming a complex. Secondly, Streit's method of averaging the four coefficients given by (1) and (2), i.e. summing the coefficients and dividing by four, makes the matrix symmetric which loses the propriety of an essential dichotomy between a supplying industry and a receiving industry. Also a particular weakness of Streit's procedure is that it is dependent on the small size[1] of the matrix of linkages which perhaps has facilitated his search for complexes. In a nutshell, neither the objective of maximization of total linkages nor the search procedure are clearly delineated in Streit's work which deprives it of any analytical rigour.

The factor analytic approaches are exemplified by (c). Given a (N x N) I-0 data matrix of inter-industrial transactions and a vector of N gross outputs, the adaptation of multivariate analysis to the complex analysis requires to fulfill one major condition, namely, the conversion of I-0 table into a sort of

1. Streit's I-0 tables for West Germany and France refer only to 26 X 26 matrices for production-oriented goods. See Streit (12).

(N x N) correlation matrix. The latter may be formed by (i) constructing a spatial correlation[1] between any pair of industries, (ii) postulating an average linkage[2] between any pair of industries from the four primary coefficients defined by (1) and (2) and treating this linkage as a surrogate correlation, and (iii) choosing the strongest correlation coefficient from among the four correlation coefficients that can be obtained from the four primary coefficients (Czamanski)[3] with respect to any pair of industries. The upshot of all these

1. A spatial correlation between any two industries may be obtained with respect to employment, value added or shipments data for these two industries over some defined spatial units. An approach of this sort has been made by Streit (12) who uses employment data.

2. Streit's procedure of dividing the sum of four coefficients, defined by (1) and (2), by four illustrates such possibilities.

3. Czamanski's procedure may be stated in a nutshell here. Taking any pair of industries, k and l, pairwise sets of data such as (1) a_{ik}'s and a_{il}'s, (2) a_{kj}'s and a_{lj}'s, (3) a_{ij}'s and a^*_{li}'s and (4) a^*_{ki}'s and a_{il}'s can be arranged to render the four correlation coefficients. Thus a high $r(a_{ik}, a_{il})$ is supposed to show a strong relationship between k and l in sofaras it draws heavily upon supplies from the same industries, i ranging over all industries. Similarly a high $r(a_{kj}, a_{lj})$ means that industries k and l are supplying to a similar set of users, j ranging over all industries. Further, a high $r(a_{ik}, a^*_{li})$ implies that the supplies of k industry are users of the products of l, and a high $r(a^*_{ki}, a_{il})$ signifies a reverse relationship between k and l, namely the users of k are supplies of l. Czamanski then picks up the highest of all four correlation coefficients between k and l and similarly for all pairs of industries to obtain an intercorrelation matrix (symmetric). The major defect of this procedure, apart from the more damaging ones related to the application of a correlation matrix (these are reported in the text), is that in large disaggregated I-O tables correlation coefficient may be low anyway. Moreover, a low correlation coefficient, say $r(a_{ik}, a_{il})$, should not necessarily preclude considerations of a complex formation involving high values of original coefficients, a_{ik}'s and a_{il}'s, whereby industries i, k and l can be considered to be members of a complex.

devices or short-cuts is that one mostly ends up with some biased linkages or associations standing for correlation coefficients. Thus spatial correlations are usually subject to the arbitrary definition of space and they may not at all reflect technical linkages that perhaps interest a researcher of complex analysis. Moreover data requirements over space may be difficult to fulfill. The shortcomings of the other approaches have been already noted and these perhaps merit no additional attention. However, in the application of correlation matrix to multivariate analysis by means of any sort of factor analytic devices for industrial complex identification, the following major deficiencies deserve particular attention:

A. An intercorrelation matrix (which is symmetric) invariably loses the essential dichotomy between a supplying industry and a receiving (using) industry which industrial complex analysis should ultimately reveal. Any tinkering with the original four coefficients that distorts this asymmetry or dichotomy should be usually suspect.

B. All factor analytic approaches involve a progressive reduction of the matrix as the complexes (in the present context) are isolated and removed from the system. This is an undesirable feature since each complex obtained subsequently is determined by the context of those obtained and removed earlier. Thus a linkage absorbed, at least partially, in one complex assumes a reduced stature relative to any other complex following it. That is, a linkage cannot be properly reflected in more than one complex.

C. The condition of orthogonalization used in factor analytic approaches seems irrelevant to the complex analysis except in the trivial case where submatrices exist in a block-diagonal sense which in reality is never so.

Before we proceed to the primary analytical thrust of this paper a final comment seems in order. There exists some other procedures of decomposability of any data matrix into submatrices (conforming to our notion of complexes), namely the method of singular decomposition[1], which particularly can take

1. See Good (1969). The basic procedure here is to decompose a given m X n matrix A as:

$$A = e_1 S_1 R_1' + e_2 S_2 R_2' + \dots \qquad (a)$$

where each term on the right is an m X n matrix of rank one, the S_i, R_i are normalized vectors of orders m, n and the e_i's are positive scalars, the singular values (if A is symmetric, they are the eigen values). The vectors' are developed by direct iteration based on the relations $S'A = eR'$ and $AR = eS$. The orthogonality occurs as $R_i'R_j = S_{ij} = S_i'S_j$. The matrix is reduced by each decomposition before extracting the next (in effect subtracting terms of the right side successively from each side of (a)).

This procedure was applied to the 1963 U.S. I/O matrix with the following variation. The orthogonality was relinquished by suppressing components below a specified threshold of the R and S vectors. This leads to vectors approximating dominant submatrices of A, constituting "complexes". The matrix reduction was prevented from developing negative entries by arbitrarily replacing then with zeros. The complexes obtained were satisfactory until the submatrices involved began to overlap i.e. to incorporate elements which had been included in a prior complex and hence subjected to reduction. Furthermore as a final objection, this procedure and the other factor analytic approaches require prodigeous computation with large disaggregated I/O matrices.

care of 'asymmetry' noted in (A) above. Unfortunately it does not enable one to overcome the limitations of (B) and (C). In some experiments worked out for large matrices of I-0 tables for Canada and the U.S.A. the results often begged interpretations, and we had no other alternative than to surrender it.

The Method

The method used to identify complexes in this study primarily hinges on the construction of an objective function, E, defined as follows:

$$E = \frac{\sum_{i \varepsilon S} \sum_{j \varepsilon R} b_{ij}}{n + k} \qquad \ldots (4)$$

$$b_{ij} = \frac{a_{ij} + a^*_{ij}}{2} \qquad \ldots (5)$$

n = total number of cells belonging to the complex.

k = size control parameter, k > 1.

$i_{\varepsilon S}$ refer to industries i belonging to the whole set of suppliers, S.

$j_{\varepsilon R}$ refer to industries j belonging to the whole set of receivers, R.

The procedure of identifying complexes can be described in a nutshell as below:

(i) A matrix of N dimensions ($N \leqslant p$) is constructed with all b_{ij}'s.

(ii) Starting with a maximum of b_{ij}'s (call it $\hat{b}_{ij}$), keep adding and dropping b_{ij}'s which are connected directly or indirectly with $\hat{b}_{ij}$ (without dropping $\hat{b}_{ij}$) in sofaras E can be maximised[1]. Note that each time a

1. See the formal treatment in terms of an algorithm in Appendix 1.

supplier and/or a receiver industry is taken in (or out), n keeps rising (or falling). To exemplify n, three supplying industries and two receiving industries will make n equal to six. k, the size control parameter, determines the size of the complex i.e. number of suppliers and receivers. A higher k will increase the size and lower k will diminish it. For practical purposes k can be assumed to have positive integer values only, and a final selection of k requires different experiments with k for satisfactory results.

(iii) Once the first complex is derived by maximization of E, the next highest b_{ij} is chosen as a starter while keeping all b_{ij}'s as they are and the process is repeated as per (ii) to obtain the second complex, and so on. Note that as more and more complexes are extracted only starting values of b_{ij}'s change while all b_{ij}'s are kept in full play so that any linkage, say b_{kl}, can be found in more than one complex. Obviously one can come across in this scheme a repetition of the same complex with different starters, b_{ij}'s, which may reasonably justify the uniqueness of that complex[1].

1. Apart from exact repetition of complexes, one can arrive at 'overlapping' and 'nested' types too, whereby in the first case a subset of complex A is also a subset of complex B, and in the second, complex A is a complete subset of complex B.

The above procedure can be christened as 'forward step search' resulting in the formation of free complexes with specific statters, and adding or dropping takes place only in one step i.e. one row or column can be added or dropped. This scheme is followed because multistep additions or delections (many rows or columns) is computationally unmanageable when maximization of the objective function, E, is also a concurrent aim. It seems also plausible to have a 'backward step' search starting with the whole matrix of b_{ij}'s and maximising E, subject to a given k, to arrive at the first complex. But then the search for the second and subsequent complexes create additional difficulties as to the choice of b_{ij}'s that needs to be dropped to effect such a program. This difficulty has partly prevented the authors from following the 'backward step approach' despite the general appeal of the backward search traditionally allowed in any reductionist procedure as in multivariate analyses.

The algorithm underlying the method suggested above is outlined in Appendix 1 & 2 with a list of statistical indicators that call for specific explanations of the findings of the study. Some final points seem in order. In deriving b_{ij}'s, where ith industry is taken to be identified as a supplier and jth industry as a receiver with b_{ij}'s signifying economic or technical linkages, we have followed a simple arithmetic mean (A.M) as a criterion rather than any other criteria of averaging, namely for example, geometric mean (G.M.). The choice between A.M or G.M would largely depend on the pratical assessment of the data and on the considerations as to how stringent[1] one would like to be with respect to the joint relationship between a supplier and a receiver, given the fact that A.M. $\geq$ G.M. and the difference between the two increasing with increasing asymmetry between a_{ij} and a^*_{ij}. Secondly, the purpose of k, size control parameter, is directed towards obtaining a variety of complexes of different sizes while maximising E. Obviously with $k = \infty$ one finds the whole matrix of b_{ij}'s, that is to say the whole transactions matrix under analysis, becoming the one and only one complex. Conversely with k = zero only the highest b_{ij} makes a complex of one supplier and one receiver. Both cases are trivial. Generally an experiment with different values of k, say k = 2 and k = 5, will suggest that the dominant linkages with the first complex under a lower value of k will also be contained in the first complex under a larger value of k. In large matrices, however, subsequent complexes obtained under different values of k appear to change the structure of their membership. Finally, this study does not pretend to lay any claim to a 'global maximum' for any choice of a complex since this requires a multi-step additions or delections of rows

1. Pratical considerations may lead to the choice of A.M. since I-O data cannot be assumed to be perfect, nor nearly perfect. A.M. may also avoid some uncertainty in the pair-wise relations of the data much more effectively than G.M.

and columns which is not computationally feasible as the number of permutations of rows and/or columns for such an objective becomes astronomical with large matrices. Consequently our procedure is geared to discovering 'local Maxima' only.

Island Industrial Complex

Very often questions relating to the development of a particular industry plague researchers to look for a bunch of other industries that are directly or indirectly related (but closely) to the primary one. Unfortunately available methods incorporating the I-0 tables cannot effectively answer such questions since there exists no workable criterion to select such a bunch. Moreover for large I-0 tables eyeball search becomes inefficient and cumbersome. We have developed, therefore, the following method to meet this objective:

(1) Starting with any industry, say m, inflate the b_{mj}'s and b_{im}'s by a weight factor, say w = 5 or 10. Keep now all other b_{ij}'s as they were before. (The weight factor is applied to give dominance to the direct relationships of industry m as a supplier as well as a receiver).

(2) Maximize E now subject to a given k under the new matrix of b_{ij}'s including industry m.

The complex that is now so obtained with reference to a specific industry, m, is called for our purposes an 'island industry complex'.

2. The Data

The data for the Canadian I-0 Tables are obtained on tape from the Input-Output Division of the Statistics Canada. The tables have been made available to us for two separate years, 1961 and 1966, and are both in producers' prices and are of 210 dimensions i.e. in square matrix forms. Gross outputs in current dollars for 210 industries are also obtained from the same source for the two years. Incidentally the I-0 Table for 1961 which we have obtained from the Statistics Canada is revised version of an earlier 1961 table to accomodate changes in the industrial classification as well as in the national accounts of 1961 (as well as earlier and later years) that took place in the beginning of 1973. The classification of the first production-oriented 165 industries (of the total of 210 industries) actually used in this study is listed in Appendix 3. The remaining 45 service industries is excluded from our analysis for reasons that will be explained shortly.

The I-0 table (expressed in producers' prices) of the U.S.A. refers to 1963 and is of 87 dimensions and is taken from the Survey of Current Business, November, 1969. The classification of the first 64 production-oriented industries from these is also listed in Appendix 3. The remaining 23 services industries are excluded for reasons that will be explained shortly.

The Canadian and American classifications of industries donot agree with each other and no attempt has been made to put them on a comparable basis since in most cases (as in the past) comparisons remain odious despite the appeal of comparability, unless considerable aggregation of industries is deliberately chosen. The latter alternative is, of course, repugnant to the very objective of our search for complexes in large disaggregated tables, and hence not pursued.

The data of the I-0 tables actually used in this study refer to the first 165 industries (of the total of 210 industries) of Canada and to the first 64 industries (of the total 87 industries) of the U.S.A. This has been necessitated by considerations bearing on the interdependence of production-oriented material goods only to the exclusion of goods of the service type. The rationale for this choice is, first, based on the presumption that services are subordinate[1] to the production relations and, second, that the inclusion of service type of goods often brings in some indirect networks or relationships of industries for which meaningful interpretations are difficult to offer.

Finally, a word needs to be said about the intra-industrial transactions of the I-0 tables. For the purposes of this study all intra-industrial transactions have been set to zero[2] even though for some few industries these transactions are considerable judging from their shares in gross outputs either as suppliers or receivers. The major reasons for following this step are: (1) we are interested in inter-industrial relations rather than intra-industrial relations, and (2) some attempts at capturing complexes with intra-industrial transactions (following our criterion of maximizing E) occasionally have shown some complexes which are much too much indirectly linked. It is conceded

1. It is not intended to imply that the production of material goods is always feasible without essential service inputs. What is implied is that the service inputs by virtue of their non-material nature require that their demands are conditional upon the existence of demands for material goods. It is, however, conceded that today much of this distinction between the material and the non-material characterization of inputs is open to question and the matter is far from being unanimous in terms of its propriety.

2. It is of some inportance to note here that while we zero the intra-industrial transactions we use the intra-industrial cells in the specification of n while maximizing E only if some suppliers and receivers belong to the same industries. This does not appear to be a major restriction since in actual cases such events occur only rarely.

that for small matrices i.e. where industrial classifications are aggregated, the right procedure would be to include the intra-industrial transactions.

3. The Empirical Results and Interpretations.

The results of the study with respect to the free complexes are reported in Tables 1, 2 and 3 at the end of the text where the first two tables refer to Canada, 1961 and 1966 and the last one to the U.S.A., 1963. The computer program has been set to obtain the first 100 complexes for both Canada and the U.S.A. as it is considered that further extractions would make interpretations difficult for complexes so obtained with gradually diminishing starting values of linkages since according to our method of extraction starting values cannot be dropped while search is being made for one-step maximization of E. Moreover, 100 complexes exhaust about 60% of the total dollar transactions, and about 47% for the total linkage coefficients (b_{ij}'s) for Canada, 1961 and 1966. Similarly, for the U.S.A., 100 complexes exhaust about 68% of the total dollar transactions and about 59% of the total linkage coefficients. These reduction (or exhaustion) estimates, however, refer to the inter-industrial transactions only of the industries we have chosen (See Appendix 3). It is considered that the information contained in these tables is sufficient to explore many interesting facets of inter-industrial relations hitherto uncovered. To read any table some explanations appear to be necessary to bring the picture in sharp relief.

Consider the complexes 2 and 4 in Table 1. The initial starting elements[1] (nuclei) of the two complexes are .7990 (with industry 85 as a supplier and industry 86 as a receiver) and .6582 (with industry 4 as a supplier and industry 92 as a receiver) respectively. With the restriction that initial starting elements cannot be dropped in our program of optimization the composition of the two complexes has slightly changed. Whereas in complex 4 industry 4 has replaced industry 85 of complex 2 as a supplier and industry 92 (of complex 4) has replaced industry 6 (of complex 2) as a receiver, the other adjoining industries, namely 82, 84, 87 and 130, have remained the same core of suppliers. The result is that complex 4 overlaps complex 2 in four 'intersecting'elements which is also shown in the table. The types of intersection have been classified as 'independent', 'overlapping', 'nested' and 'repetitive'. Between any two complexes A and B, the 'overlapping' case arises when a subset of complex A is also subset of complex B, whereas the 'nested' case arises when complex A is a complete subset of complex B or vice-versa. The 'independent' and 'repetitive' cases are the polar cases which merit no further explanation.

1. These are marked with an asterisk sign.

Now in the above example how is it that complexes 2 and 4 with all the common suppliers like 82, 84, 87 and 130 could not collapse into one single complex? The explanation lies mainly in the choice of k (in our example k=10). A higher k (say, k=15) perhaps could have done the trick but it may also bring in elements with lower values of linkages which may not be very welcome if compactness (as roughly measured by CV, coefficient of variation) of a complex is also a desirable objective. In very many experiments with varying k we have observed that k=10 does appropriately measure up to our requirements, namely medium sized complexes, relatively low coefficient of variation and relatively few linkages of lower values. Hence for our purposes it is reasonable to suppose that the existence of 'overlapping' complexes should cause no concern. Finally for the tables the last column demonstrates the one-step selection of industries as they are added (-1) and dropped (1) to maximize E and it gives the sequential values of E in this process until it cannot be increased anymore.

The results may now be summarized as follows:

(1) A large number of repetitive complexes appear in all three tables which makes it easier to evaluate only the 'independent', 'overlapping' and 'nested' types. The number of repetitions for Canada 1961 is 51, for Canada 1966 it is 42 and for the U.S.A. it is 37. As noted before a

complex which is repeated many times is supposed to gain in credence as it becomes a unique complex insofaras it cannot be dismembered whatever may be the starting values.

(2) Disregarding the 'repetitive' types, the remaining complexes still remain quite large in number which may require individual attention of interpretation or which can be collapsed into some ranking order such that the problem of search with a view to comparing between any two or many complexes can be minimized. The latter has been simplified by postulating a numerical indicator with a multiplicative factor[1] of E and g which is then organized in descending values (in absolute values as well as in rank). The first 20 complexes are then chosen and shown in Tables A, B and C. These are also given some appropriate names particularly from the point of view of receiving industries. Now in all these tables one further notices that overlapping occurs as between complexes having similar titles. Thus in Table A complexes 2, 18, 94, 89, 4, 10 and 45 overlap in varying degrees and similarly for others. Occasionally, as in Table B, one gets complexes having multiple ties over and above overlapping.

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1. One can suggest also alternative formulations, namely E. m_1 instead of E.g. Since our objective is more directed toward linkage coefficients (which are reflected in g) rather than in total dollar transactions (embodied in m_1) we have thought that the inclusion of g is more appropriate.

Table A

SELECTED INDUSTRIAL COMPLEXES BY RANK FROM THE 100 COMPLEXES EXTRACTED FROM THE INPUT-OUTPUT TABLE, CANADA, 1961.

Rank	Complex No.	E.g	Name of the Complex
1	2	.5501	Steel & Rolling Mills
2	31	.5405	Residential & Non-Residential Construction
3	18	.5136	Sinter Plant & Blast Furnaces & Steel Mills
4	63	.4720	Residential, Non-Residential & other Engineering Construction
5	94	.4559	Coke Oven, Steel Mills & other Steel
6	89	.4539	Steel Mills & other Smelting & Refining
7	4	.4478	Steel Mills & other Smelting & Refining
8	77	.4118	Food & Beverage & Agriculture
9	99	.4008	Food & Beverage & Agriculture
10	51	.3951	Food & Beverage & Agriculture
11	10	.3922	Steel Mills & Steel Pipe & Tube Mills
12	21	.3789	Food & Beverage & Agriculture
13	7	.3788	Pulp and Paper
14	70	.3763	Sawmills, Veneer & Plywood & Pulp & Paper
15	67	.3662	Clothing & textiles
16	12	.3634	Clothing & textiles
17	45	.3590	Steel Mills, Ferro Alloy & Iron & Steel
18	37	.3546	Sawmills, Wood Pulp, Pulp & Paper
19	76	.3502	Residential, Non-Residential Construction & Sash and Door
20	84	.3141	Clothing & textiles and Fur Dressing

Source: Table 1.

N.B.: Complexes are arranged here in a descending ranking order based on the values of E.g and some abbreviated names have been given to complexes for easy recognition. Repetitive complexes are excluded. For a complete description, see Table 1.

Table B

SELECTED INDUSTRIAL COMPLEXES BY RANK FROM THE 100 COMPLEXES EXTRACTED FROM THE INPUT-OUTPUT TABLE, CANADA, 1966.

Rank	Complex No.	E.g	Name of the Complex.
1	1	.5961	Steel & Rolling Mills
2	88	.4941	Sinter Plant, Blast Furnaces & Steel Mills
3	6	.4902	Steel Mills & Other Smelting & Refining
3	28	.4902	Sinter Plant, Blast Furnaces & Steel Mills
4	41	.4654	Sinter Plant, Blast Furnaces, Ferro Alloy & Iron & Steel
5	73	.4522	Steel Mills & Non-Residential Construction
5	74	.4522	Steel Mills & Non-Residential Construction
5	81	.4522	Steel Mills & Non-Residential Construction
6	76	.4505	Steel Mills & Non-Residential Construction
7	83	.4498	Steel Mills & Non-Residential Construction
8	90	.4429	Steel Mills & Non-Residential Construction
9	94	.4425	Steel Mills & Non-Residential Construction
10	95	.4406	Steel Mills & Non-Residential Construction
11	33	.4397	Steel Mills & Non-Residential Construction
12	20	.4376	Sinter Plant & Blast Furnaces & Steel Mills & Iron & Steel
13	27	.4346	Steel Mills, Non-Residential Construction & Gas & Oil Facility
14	14	.4338	Steel Mills & Iron & Steel
15	38	.4326	Saw Mills, Wood Pulp, Pulp & Paper
16	42	.4264	Construction, Residential & Non-Residential
17	35	.3909	Wood Pulp and Pulp & Paper
18	67	.3894	Veneer & Plywood, Wood Pulp, Pulp & Paper
19	4	.3512	Steel Mills
19	11	.3512	Steel Mills
20	7	.3454	Wood Pulp, Pulp & Paper

Source: Table 2.

N.B. : Complexes are arranged here in a descending ranking order based on the values of E.g and some abbreviated names have been given to complexes for easy recognition. Repetitive complexes are excluded. For a complete description, see Table 2.

Table C

SELECTED INDUSTRIAL COMPLEXES BY RANK FROM THE 100 COMPLEXES EXTRACTED FROM THE INPUT-OUTPUT TABLE, the U.S.A., 1963.

Rank	Complex No.	E.g	Name of the Complex
1	40	.5765	Agriculture - Food - Containers
2	21	.5260	Construction
3	11	.5138	Agriculture - Food
4	12	.4469	Agriculture - Food - Wood Products
5	65	.4396	Agri products - Food
6	59	.4289	Construction - Motor Vehicles - Equipments
7	17	.4246	Construction - Stone & Clay
8	56	.4203	Construction
9	31	.4178	Food
10	74	.4090	Construction
11	76	.4077	Construction
12	14	.4067	Agriculture - Food
13	83	.4059	Construction
14	93	.4022	Construction
15	15	.4020	Agriculture - Food - Paper Containers
16	49	.4015	Agriucltuure - Forestry & Fishing
17	100	.3996	Construction
18	88	.3950	Agriculture - Forestry & Fishing - Paper
19	5	.3942	Construction
20	69	.3931	Agricultual Products - Food

Source: Table 3.

N.B.: Complexes are arranged here in a descending ranking order based on the values of E.g and some abbreviated names have been given to complexes for easy recognition. Repetitive complexes are excluded. For a complete description, see Table 3.

(3) Tables A, B and C speak unequivocally for some dominant complexes existing in the Canadian and the United States economies. In both cases the common complexes are of the nature of construction and food types despite the asymmetry of classification of industries. The steel mills complex which is dominant in Canada (both for 1961 and 1966) is conspicuous by its absence in the U.S.A. One further notices from the detailed Tables 1 and 2 that the membership structure of the selected complexes of Tables A and B has not significantly changed in Canada between 1961 and 1966.

(4) There are some complexes where a particular industry appears both as a supplier and as a receiver independent of destination or origin. Examples in Table 1 are complexes 2, 7, 18, 51, 56 and 84; in Table 2 these are complexes 1, 7, 16, 20, 28, 38, 41, 47, 50 and 84; in Table 3 these are complexes 3, 8, 10, 16, 20, 28, 65, 68, 73, 80, 87 and 96. But there is hardly any complex where one can find that suppliers and receivers have interchanged their roles i.e. an industry M supplying to industry K is reciprocated by industry K supplying to industry M. This asymmetry is very well pervasive and casts doubts on the findings of Simpson and Tsukui (1965) where exchanges within a block of industries are deemed to be in the nature of a two-way traffic.

Finally, 'island' industry complexes with given initial industries are reported in Tables D and E for Canada and the U.S.A. The weight factor chosen for these exercises is taken to be equal to ten to render sufficient strength to the initial industry both as a supplier and a receiver. The full display of the ensuing values of different indicators such as E, g, m_1 and the sequential maximization of E as they are shown in Tables 1, 2 and 3 are not reported here to save space. Tables D and E are only illustrations without posing comparisons between complexes since the latter does not appear to be strictly relevant. Further, it is interesting to note that the structure of the island industry complexes has hardly changed in Canada for the two time periods, 1961 and 1966, except slightly for the initial industry 74.

TABLE D

ISLAND INDUSTRY COMPLEXES ARISING OUT OF SELECTED INITIAL INDUSTRIES, CANADA, 1961 AND 1966

Initial Industry No.	Structure of the Complex 1961		Structure of the Complex 1966	
	Supplier	Receiver	Supplier	Receiver
1	1	16	1	16
	1	17	1	17
	1	18	1	18
	1	22	1	23
	1	23	1	29
	1	29	1	35
	1	35		
16	1	16	1	16
	1	40	1	40
	16	40	16	40
	29	16	29	16
	29	40	29	40
33	30	33	30	33
	78	33	78	33
	99	33	99	33
	134	33	134	33
47	47	44	47	44
	47	45	47	48
	47	51	47	50
	47	53	47	51
	47	59	47	53
	47	60	47	58
	47	61	47	59
			47	60
			47	61

Initial Industry No.	Structure of the Complex 1961		Structure of the Complex 1966	
	Supplier	Receiver	Supplier	Receiver
73	2	73	2	73
	2	74	2	74
	72	73	72	73
	72	74	72	74
	73	74	73	74
74	72	74	72	74
	72	75	72	75
	73	74	72	78
	73	75	73	74
	74	75	73	75
			73	78
			74	75
			74	78
85	82	85	82	85
	82	86	82	86
	84	85	84	85
	84	86	84	86
	85	86	85	86
	87	85	87	85
	87	86	87	86
	130	85	130	85
	130	86	130	86
110	38	110	38	110
	48	110	58	110
	112	110	112	110
	134	110	134	110
137	9	137	9	137
146	146	38	146	1
	146	39	146	38
	146	47	146	39
	146	55	146	47
	146	73	146	73

Initial Industry No.	Structure of the Complex 1961		Structure of the Complex 1961	
	Supplier	Receiver	Supplier	Receiver
146 (contd)	146	137	146	137
	146	139	146	139
	146	140	146	140
	146	141	146	141
	146	143	146	143
	146	144	146	144
	146	147	146	147
	146	0	146	0

TABLE E

ISLAND INDUSTRY COMPLEXES ARISING OUT OF SELECTED INITIAL INDUSTRIES, the USA, 1963

Initial Industry No.	Structure of the Complex	
	Supplier	Receiver
1	1	14
	2	14
	4	1
	4	2
	21	1
	21	2
	21	14
	35	1
	35	14
	39	1
	39	2
	39	14
14	1	4
	1	14
	2	4
	2	14
	24	14
	39	14
27	4	1
	4	2
	21	1
	21	2
	21	27
	27	1
	27	2

Initial Industry No.	Structure of the Complex	
	Supplier	Receiver
37	5	27
	5	37
	10	27
	10	37
	31	27
	31	37
	37	27
59	9	11
	9	59
	20	11
	20	59
	36	11
	36	59
	40	11
	40	59
	55	11
	55	59
	59	11

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TABLE 1

Characterization of Industrial Complexes from I-O Table, Canada 1961.

(k = 10)

Complex No.	Inter-industrial Linkages (b_{ij}'s): Suppliers	Receivers		E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[ŏ] of E: Sup	Rec	E	±1
		137											
1	9	.8674*		.0789	1.11	4.178	1.754	0	Independent	–	–	–	–
				(.0000)		(4.178)		(1)					
		85	86										
2	82	.4166	.2919	.1463	3.76	6.013	2.525	0	Independent	82	–	.0909	-1
	84	.6253	–	(.9405)		(10.191)		(10)		–	88	.1144	-1
	85	–	.7990*							–	85	.1261	-1
	87	.4690	–							84	–	.1391	-1
	130	.3238	–							87	–	.1415	-1
										–	88	.1445	1

* Starting element

** This column is intended to describe the relevance of the present complex to the complexes obtained previously i.e. whether the present complex is independent of the earlier ones or whether it resembles them by characteristics like 'overlapping', 'nested' or 'repetitive' types.

ŏ Starting element characterized by an asterik is not shown here since the element has to be retained anyway by the method we have followed.

N.B. For the notation See Appendix 2.

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
2 (contd)											130	-	.1463	-1
3		45	46	110										
	48	.3449	.4338	.0677	.0949	1.95	2.143	.900	0	Independent	38	-	.0630	-1
	112	-	-	.6725 *	(.9934)		(12.334)		(6)		134	-	.0641	-1
											48	-	.0644	-1
											-	46	.0742	-1
											134	-	.0786	1
											-	45	.0844	-1
											38	-	.0949	1
4		85	92											
	4	.0010	.6582 *		.1321	3.39	5.444	2.286	4	Overlapping on Complex 2	5	-	.0673	-1
	82	.4166	-		(.9585)		(15.339)		(10)		130	-	.0718	-1
	84	.6253	-								-	85	.0786	-1
	87	.4690	.0218								84	-	.1046	-1
	130	.3238	.1257								87	-	.1187	-1
											82	-	.1268	-1
											5	-	.1321	1
5		83	92											
	4	-	.6582		.0982	1.77	3.303	1.387	1	Overlapping on Complex 4	-	72	.0651	-1
	8	.6362*	.0808		(.8867)		(15.672)		(4)		-	92	.0663	-1
											4	-	.0950	-1
											-	72	.0982	1

...plex No.	Inter-industrial Linkages (b_{ij}'s) Suppliers	Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
		85												
6	82	.4166			.1311	2.36	2.440	1.024	4	Nested on	87	-	.0912	-1
	84	.6253*			(.2384)		(15,672)		(4)	Complex 4	82	-	.1162	-1
	87	.4690									130	-	.1311	-1
	130	.3238												
		73	74	76										
7	2	.4078	-	-	.1246	3.04	10.663	4.477	0	Independent	0	76	.0929	-1
	72	.3703	.6079*	.5075	(.9246)		(26.335)		(9)		0	73	.1143	-1
	73	-	.4741	-							73	-	.1225	-1
											2	-	.1246	-1
		20	61											
8	3	.5403*	.0617		.1089	2.80	1,662	.698	0	Independent	0	61	.0502	-1
	44	-	.3099		(.9877)		(27.998)		(10)		154	-	.0790	-1
	46	-	.4044								46	-	.0944	-1
	51	-	.3583								51	-	.1038	-1
	154	-	.5040								44	-	.1089	-1
		36												
9	35	.5274			.0479	.68	.442	.186	0	Independent	-	-	-	-
					(.0032)		(28.440)		(1)					
		85	88											
10	82	.4166	.5105*		.1303	3.01	2.498	1.049	4	Overlapping on	-	85	.0773	-1
	84	.6253	-		(.8202)		(28.498)		(8)	Complex 6	84	-	.1109	-1

Table 1 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
		85	88								Sup	Rec	E	±1
10 (contd)	87	.4690	-								87	-	.1263	-1
	130	.3238	-								130	-	.1303	-1
		73	74	76										
11	2	.4078	-	-	.1246 (.9246)	3.04	10.663 (28.498)	4.477	9 (9)	Repetitive of Complex 7	-	74	.0929	-1
	[illegible]	.3703	.6079	.5075*							-	73	.1143	-1
	73	-	.4741	-							73	-	.1225	-1
											2	-	.1246	-1
		61												
12	44	.3099			.1253 (.4403)	2.90	1.777 (29.161)	.746	4 (8)	Overlapping on Complex 8	46	-	.0757	-1
	46	.4044									51	-	.0974	-1
	47	.1786									44	-	.1126	-1
	49	.1987									49	-	.1184	-1
	51	.3583									47	-	.1221	-1
	54	.1662									54	-	.1247	-1
	60	.1358									60	-	.1253	-1
	154	.5040*												
		41	42	43										
13	40	.4920*	.1929	.0809	.0589 (.6797)	.98	.298 (29.460)	.125	0 (3)	Independent	-	42	.0571	-1
											-	43	.0589	-1

Table 1 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers				E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
		73	74	76											
14	2	.4078	–	–		.1246	3.04	10.663	4.477	9	Repetitive	72	–	.0902	-1
	72	.3703	.6079	.5075		(.9246)		(29.460)		(9)	of	–	76	.1135	-1
	73	–	.4741*	–							Complex 7	–	73	.1225	-1
												2	–	.1246	-1
		85													
15	82	.4166				.1311	2.36	2.440	1.024	4	Repetitive	84	–	.0912	-1
	84	.6253				(.2384)		(29.460)		(4)	of	82	–	.1162	-1
	87	.4690*									Complex 6	130	–	.1311	-1
	130	.3238													
		159	161												
16	89	.0884	.4563*			.0793	2.24	1.975	.829	0	Independent	15	–	.0481	-1
	96	.1757	.0187			(.9709)		(31.435)		(12)		104	–	.0525	-1
	97	.1621	.0062									–	159	.0555	-1
	104	.1161	.1054									133	–	.0694	-1
	107	.2559	.0001									107	–	.0752	-1
	133	.3592	.0004									96	–	.0772	-1
												15	–	.0788	1
												97	–	.0793	-1
		75	78	79	80										
17	74	.2945	.2557	.1562	.1580	.0756	1.75	2.460	1.033	0	Independent	74	–	.0501	-1
	81	–	.0482	.0045	.4432*	(.8546)		(33.894)		(8)		–	78	.0646	-1
												–	75	.0750	-1

Table 1 (cont'd)

omplex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers						E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
														Sup	Rec	E	±1
17 contd)														–	79	.0756	-1
		84	85														
18	6	.3871	.0226					.1348 (.8745)	3.81	3.628 (35.083)	1.523	4 (12)	Overlapping on Complex 4	6	–	.0685	-1
	82	.2523	.4166											82	–	.0826	-1
	83	.4350*	.0089											–	88	.0991	-1
	84	–	.6253											–	85	.1070	-1
	87	–	.4690											84	–	.1208	-1
	130	.0250	.3238											87	–	.1251	-1
														–	88	.1308	1
														130	–	.1348	-1
		45	46	52	53	60	70										
19	48	.3449	.4338*	.0887	.0736	.0772	.0952	.0696 (.7896)	1.43	.140 (35.123)	.059	2 (6)	Overlapping on Complex 3	–	45	.0649	-1
														–	70	.0672	-1
														–	52	.0688	-1
														–	60	.0693	-1
														–	53	.0696	-1
		1															
20	22	.4299*						.0950 (.3582)	1.71	1.920 (37.043)	.806	0 (4)	Independent	140	–	.0706	-1
	50	.3496												50	–	.0921	-1
	105	.1332												105	–	.0950	-1
	140	.4176															

Table 1 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers 16	17	18	23	29	35	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation$^{\sigma}$ of E: Sup	Rec	E	±1
21	1	.3902	.2798	.3745	.2940	.4105	.4232*	.1358 (.1531)	2.79	8.580 (45.623)	3.602	0 (6)	Independent	–	29	.0695	-1
														–	16	.0941	-1
														–	18	.1142	-1
														–	23	.1262	-1
														–	17	.1358	-1
		1															
22	22	.4299						.0950 (.3582)	1.71	1.920 (45.623)	.806	4 (4)	Repetitive of Complex 20	22	–	.0706	-1
	50	.3496												50	–	.0921	-1
	105	.1332												105	–	.0950	-1
	140	.4176*															
		85															
23	82	.4166*						.1311 (.2384)	2.36	2.440 (45.623)	1.024	4 (4)	Repetitive of Complex 6	84	–	.0868	-1
	84	.6253												87	–	.1162	-1
	87	.4690												130	–	.1311	-1
	130	.3238															
		16	17	18	23	29	35										
24	1	.3902	.2798	.3745	.2940	.4105*	.4232	.1358 (.1531)	2.79	8.580 (45.623)	3.602	6 (6)	Repetitive of Complex 21	–	35	.0695	-1
														–	16	.0941	-1
														–	18	.1142	-1
														–	23	.1262	-1
														–	17	.1358	-1

Table 1 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers						E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
		73	74	76													
25	2	.4078*	-	-				.1246 (.9246)	3.04	10.663 (45.623)	4.477	9 (9)	Repetitive of Complex 7	72	-	.0648	-1
	72	.3703	.6079	.5075										-	74	.0990	-1
	73	-	.4741	-										-	76	.1183	-1
														73	-	.1246	-1
		61															
26	44	.3099						.1253 (.4403)	2.90	1.777 (45.623)	.746	8 (8)	Repetitive of Complex 12	154	-	.0757	-1
	46	.4044*												51	-	.0974	-1
	47	.1786												44	-	.1126	-1
	49	.1987												49	-	.1184	-1
	51	.3583												47	-	.1221	-1
	54	.1662												54	-	.1247	-1
	60	.1358												60	-	.1253	-1
	154	.5040															
		16	17	18	23	29	35										
27	1	.3902*	.2798	.3745	.2940	.4105	.4232	.1358 (.1531)	2.79	8.580 (45.623)	3.602	6 (6)	Repetitive of Complex 21	-	35	.0678	-1
														-	29	.0941	-1
														-	18	.1142	-1
														-	23	.1262	-1
														-	17	.1358	-1
		84	85														
28	6	.3871*	.0226					.1348 (.8745)	3.81	3.628 (45.623	1.523	12 (12)	Repetitive of Complex 18	83	-	.0685	-1
	82	.2523	.4166											82	-	.0826	-1

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers						E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation$^{\sigma}$ of E			
		84	85											Sup	Rec	E	±1
28 (contd)	83	.4350	.0089											–	88	.0991	-1
	84	–	.6253											–	85	.1070	-1
	87	–	.4690											84	–	.1208	-1
	130	.0250	.3238											87	–	.1251	-1
														–	88	.1308	1
														130	–	.1348	-1
		16	17	18	23	29	35										
29	1	.3902	.2798	.3745*	.2940	.4105	.4232	.1358 (.1531)	2.79	8.580 (45.623)	3.602	6 (6)	Repetitive of Complex 21	–	35	.0665	-1
														–	29	.0929	-1
														–	16	.1142	-1
														–	23	.1262	-1
														–	17	.1358	-1
		73	74	76													
30	2	.4078	–	–				.1246 (.9246)	3.04	10.663 (45.623)	4.477	9 (9)	Repetitive of Complex 7	–	74	.0815	-1
	72	.3703*	.6079	.5075										–	76	.1143	-1
	73	–	.4741	–										73	–	.1225	-1
														2	–	.1246	-1
		158	159														
31	55	.0790	.1368					.1081 (.6011)	5.00	2.892 (47.780)	1.204	4 (26)	Overlapping on Complex 16	107	–	.0513	-1
	64	.2376	.0607											96	–	.0608	-1
	77	.1857	.1104											97	–	.0681	-1
	96	.0483	.1757											129	–	.0740	-1

Table 1 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers		E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation$^{\sigma}$ of E			
		158	159							Sup	Rec	E	±1
31 (contd)	97	.0482	.1621										
	98	.0811	.1564							98	-	.0792	-1
	102	.2631	.1342							55	-	.0826	-1
	107	.0071	.2559							102	-	.0854	-1
	126	.2667	.0653							-	158	.0905	-1
	129	.2611	.1578							132	-	.0978	-1
	132	.2857	.1001							126	-	.1023	-1
	133	.0263	.3592*							64	-	.1053	-1
	136	.1162	.1108							77	-	.1078	-1
										136	-	.1081	-1
		61											
32	44	.3099		.1253 (.4403)	2.90	1.777 (47.780)	.746	8 (8)	Repetitive of Complex 12	154	-	.0719	-1
	46	.4044								46	-	.0974	-1
	47	.1786								44	-	.1126	-1
	49	.1987								49	-	.1184	-1
	51	.3583*								47	-	.1221	-1
	54	.1662								54	-	.1247	-1
	60	.1358								60	-	.1253	-1
	154	.5040											
		93	135										
33	91	.3575*	.0672	.0354 (.6837)	.55	.378 (48.157)	.158	0 (2)	Independent	-	135	.0354	-1

Table 1 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers							E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-[illegible] and Exit (+1) of Indus- in the maximisation$^{\sigma}$ [illegible]		
		94	95	149											Sup	Rec	E
34	92	.3502*	.1305	.0709					.0424 (.6530)	.71	.593 (48.750)	.249	0 (3)	Independent	-	95	.0401
															-	149	.0424
		1															
35	22	.4299							.0950 (.3582)	1.71	1.920 (48.750)	.806	4 (4)	Repetitive of Complex 20	22	-	.0650
	50	.3496*													140	-	.0921
	105	.1332													105	-	.0950
	140	.4176															
		45	46	52	53	60	70										
36	48	.3449*	.4338	.0887	.0736	.0772	.0952		.0696 (.7896)	1.43	.140 (48.750)	.059	6 (6)	Repetitive of Complex 19	-	46	.0649
															-	70	.0672
															-	52	.0688
															-	60	.0693
															-	53	.0696
		62	73	74	76												
37	2	.3376*	.4078	-	-				.1240 (.8238)	2.86	9.415 (50.180)	3.953	6 (8)	Overlapping on Complex 7	-	73	.0621
	72	-	.3703	.6079	.5075										72	-	.0797
															-	74	.1077
															-	76	.1240
		89	96	97	98	99	100	164									
38	86	.3339*	.0858	.2358	.0743	.2263	.1642	.0780	.0705 (.5368)	1.54	2.360 (52.540)	.991	0 (7)	Independent	-	97	.0475
															-	99	.0612
															-	100	.0686

Complex No.	Inter-industrial Linkages (b_{ij}'s): Suppliers	Inter-industrial Linkages (b_{ij}'s): Receivers	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
38 (contd)									-	96	.0697	-1
									-	164	.0702	-1
									-	98	.0705	-1
		85										
39	82	.4166	.1311	2.36	2.440	1.024	4	Repetitive	84	-	.0791	-1
	84	.6253	(.2384)		(52.540)		(4)	of	87	-	.1091	-1
	87	.4690						Complex 23	82	-	.1311	-1
	130	.3238*										
		61										
40	44	.3099*	.1253	2.90	1.777	.746	8	Repetitive	154	-	.0678	-1
	46	.4044	(.4403)		(52.540)		(8)	of	46	-	.0937	-1
	47	.1786						Complex 12	51	-	.1126	-1
	49	.1987							49	-	.1184	-1
	51	.3583							47	-	.1221	-1
	54	.1662							54	-	.1247	-1
	60	.1358							60	-	.1253	-1
	154	.5040										
		75 78 79 80										
41	74	.2945* .2557 .1562 .1580						Repetitive	-	78	.0459	-1
	81	- .0482 .0045 .4432	.0756	1.75	2.460	1.033	8	of	-	80	.0545	-1
			(.8546)		(52.540)		(8)	Complex 17	81	-	.0750	-1
									-	79	.0756	-1

Inter-industrial Linkages (b_{ij}'s)

ex	Suppliers	Receivers						E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[0] of E			
		16	17	18	23	29	35							Sup	Rec	E	±1
	1	.3902	.2798	.3745	.2940*	.4105	.4232	.1358	2.79	8.580	3.602	6	Repetitive	–	35	.0598	-1
								(.1531)		(52.540)		(6)	of	–	29	.0867	-1
													Complex 21	–	16	.1084	-1
														–	18	.1262	-1
														–	17	.1358	-1
		85	86										Repetitive	85	–	.0909	-1
	82	.4166	.2919*					.1463	3.76	6.013	2.525	10	of	–	88	.1144	-1
	84	.6253	–					(.9405)		(52.540)		(10)	Complex 2	–	85	.1261	-1
	85	–	.7990											84	–	.1391	-1
	87	.4690	–											87	–	.1415	-1
	130	.3238	–											–	88	.1445	1
														130	–	.1463	-1
		158															
	63	.1752						.0995	2.30	1.375	.577	7	Overlapping on	126	–	.0460	-1
	64	.2376						(.2456)		(52.812)		(8)	Complex 31	102	–	.0627	-1
	77	.1857												129	–	.0769	-1
	102	.2631												64	–	.0876	-1
	126	.2667												77	–	.0937	-1
	129	.2611												63	–	.0985	-1
	132	.2857*												136	–	.0995	-1
	136	.1162															

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers						E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[δ] of E			
		85	87	88										Sup	Rec	E	±1
45	82	.4166	.2833*	.5105				.1213	2.96	2.485	1.043	6	Overlapping on	-	88	.0661	-1
	84	.6253	-	-				(.9523)		(52.869)		(9)	Complex 10	-	85	.0931	-1
	87	.4690	-	-									and	84	-	.1147	-1
													Complex 18	87	-	.1213	-1
		16	17	18	23	29	35										
46	1	.3902	.2798*	.3745	.2940	.4105	.4232	.1358	2.79	8.580	3.602	6	Repetitive	-	35	.0586	-1
								(.1531)		(52.869)		(6)	of	-	29	.0856	-1
													Complex 21	-	16	.1074	-1
														-	18	.1252	-1
														-	23	.1358	-1
		128	159														
47	14	.1276	.0332					.0680	2.27	1.427	.599	6	Overlapping on	14	-	.0332	-1
	96	-	.1757					(.0146)		(53.227)		(16)	Complex 31	-	127	.0399	-1
	97	.0003	.1621											-	157	.0432	-1
	98	-	.1564											-	160	.0456	-1
	107	-	.2559											-	162	.0464	-1
	124	.2711*	.0687											128	-	.0485	-1
	129	.0001	.1578											-	159	.0510	-1
	133	.0002	.3592											133	-	.0539	-1
														-	127	.0557	1
														98	-	.0579	-
														97	-	.0591	-1
														-	157	.0609	1
														107	-	.0613	-1

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[5] of E: Sup	Rec	E	±1
47 (contd)									-	162	.0636	1
									-	160	.0645	1
									96	-	.0663	-1
									129	-	.0672	-1
									128	-	.0680	1
		158										
48	63	.1752	.0995 (.2456	2.30	1.375 (53.227)	.577	8 (8)	Repetitive of Complex 44	132	-	.0460	-1
	64	.2376							102	-	.0627	-1
	77	.1857							129	-	.0769	-1
	102	.2631							64	-	.0876	-1
	126	.2667*							77	-	.0937	-1
	129	.2611							63	-	.0985	-1
	132	.2857							136	-	.0995	-1
	136	.1162										
		158										
49	63	.1752	.0995 (.2456)	2.30	1.375 (53.227)	.577	8 (8)	Repetitive of Complex 44	132	-	.0457	-1
	64	.2376							126	-	.0627	-1
	77	.1857							129	-	.0769	-1
	102	.2631*							64	-	.0876	-1
	126	.2667							77	-	.0937	-1
	129	.2611							63	-	.0985	-1
	132	.2857							136	-	.0995	-1
	136	.1162										

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers							E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
		89	97	99	100	122									Sup	Rec	E	±1
50	86	.3339	.2358	.2263	.1642	.0041			.0617	1.58	2.154	.904	4	Overlapping on	93	–	.0296	-1
	94	–	.0002	.0046	.0014	.2630*			(1.0329)		(53.463)		(10)	Complex 38	–	98	.0343	-1
															86	–	.0350	-1
															–	89	.0470	-1
															–	99	.0538	-1
															–	97	.0568	-1
															93	–	.0573	1
															–	100	.0596	-1
															–	98	.0617	1
		16	17	18	22	23	29	35										
51	1	.3902	.2798	.3745	.1305	.2940	.4105	.4232	.1132	3.49	9.268	3.891	6	Overlapping on	–	144	.0359	-1
	29	.1444	.0001	.0017	.2620*	.0069	–	.0002	(.8528)		(54.150)		(14)	Complex 21	–	16	.0443	-1
															1	–	.0685	-1
															–	35	.0844	-1
															–	29	.0965	-1
															–	18	.1048	-1
															–	23	.1086	-1
															–	17	.1110	-1
															–	144	.1132	1
		158																
52	63	.1752							.0995	2.30	1.375	.577	8	Repetitive	132	–	.0456	-1
	64	.2376							(.2456)		(54.150)		(8)	of	126	–	.0626	-1
	77	.1857												Complex 44	102	–	.0769	-1

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers				E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[c] of E			
		158										Sup	Rec	E	±1
52 (contd)	102	.2631										64	-	.0876	-1
	126	.2667										77	-	.0937	-1
	129	.2611*										63	-	.0985	-1
	132	.2857										136	-	.0995	-1
	136	.1162													
		158	159												
53	55	.0790	.1368			.1081 (.6011)	5.00	2.892 (54.150)	1.214	26 (26)	Repetitive of Complex 31	133	-	.0513	-1
	64	.2376	.0607									96	-	.0608	-1
	77	.1857	.1104									97	-	.0681	-1
	96	.0483	.1757									129	-	.0740	-1
	97	.0482	.1621									98	-	.0792	-1
	98	.0811	.1564									55	-	.0826	-1
	102	.2631	.1342									102	-	.0854	-1
	107	.0071	.2559*									-	158	.0905	-1
	126	.2667	.0653									132	-	.0978	-1
	129	.2611	.1578									126	-	.1023	-1
	132	.2857	.1001									64	-	.1053	-1
	133	.0263	.3592									77	-	.1078	-1
	136	.1162	.1108									136	-	.1081	-1
		75	78	79	80										
54	74	.2945	.2557*	.1562	.1580	.0756 (.8546)	1.75	2.460 (54.150)	1.033	8 (8)	Repetitive of Complex 17	-	75	.0459	-1
	81	-	.0482	.0045	.4432							-	80	.0545	-1
												81	-	.0750	-1
												-	79	.0756	-1

Table 1 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers							
		84	85						
55	6	.3871	.0226						
	82	.2523*	.4166						
	83	.4350	.0089						
	84	–	.6253						
	87	–	.4690						
	130	.0250	.3238						
		38	39	47	140	141	143	147	152
56	141	.0196	.0229	.0215	.0002	–	.0761	.0397	.2471*
	146	.1064	.0788	.0710	.0932	.1245	.1146	.0825	.0456
		158							
57	63	.1752							
	64	.2376*							
	77	.1857							
	102	.2631							
	126	.2667							
	129	.2611							

Complex No.	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**
55	.1348 (.8745)	3.81	3.628 (54.150)	1.523	12 (12)	Repetitive of Complex 18
56	.0440 (.8337)	1.47	1.240 (55.390)	.520	0 (16)	Independent
57	.0995 (.2456)	2.30	1.375 (55.390)	.577	8 (8)	Repetitive of Complex 44

Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E

Complex No.	Sup	Rec	E	±1
55	–	88	.0636	-1
	–	85	.0907	-1
	84	–	.1128	-1
	87	–	.1197	-1
	83	–	.1235	-1
	6	–	.1251	
	–	88	.1308	1
	130	–	.1348	-1
56	–	143	.0269	-1
	146	–	.0345	-1
	–	38	.0381	-1
	–	141	.0408	-1
	–	147	.0428	-1
	–	39	.0435	-1
	–	140	.0438	-1
	–	47	.0440	-1
57	132	–	.0436	-1
	126	–	.0608	-1
	102	–	.0752	-1
	129	–	.0876	-1
	77	–	.0937	-1
	63	–	.0985	-1

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers							E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
															Sup	Rec	E	±1
		158																
57 (cont'd)	132	.2857													136	-	.0995	-1
	136	.1162																
		89	96	97	98	99	100	164										
58	86	.3339	.0858	.2358*	.0743	.2263	.1642	.0780	.0705 (.5368)	1.54	2.360 (55.390)	.991	7 (7)	Repetitive of Complex 38	-	89	.0475	-1
															-	99	.0612	-1
															-	100	.0686	-1
															-	96	.0697	-1
															-	164	.0702	-1
															-	98	.0705	-1
		118																
59	68	.0437							.0229 (.6819)	.35	.280 (55.670)	.117	0 (2)	Independent	68	-	.0229	-1
	119	.2313*																
		89	96	97	98	99	100	164										
60	86	.3339	.0858	.2358	.0743	.2263*	.1642	.0780	.0705 (.5368)	1.54	2.360 (55.670)	.991	7 (7)	Repetitive of Complex 38	-	89	.0467	-1
															-	97	.0612	-1
															-	100	.0686	-1
															-	96	.0697	-1
															-	164	.0702	-1
															-	98	.0705	-1
		49	61															
61	44	.2116*	.3099						.0997 (.8990)	2.56	1.551 (55.706)	.651	5 (10)	Overlapping on Complex 12	-	61	.0435	-1
	46	.0003	.4044												154	-	.0733	-1

Table 1 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation$^{\sigma}$ of E			
		49	61								Sup	Rec	E	±1
61 (contd)	47	.0275	.1786								46	-	.0894	-1
	51	-	.3583								51	-	.0994	-1
	154	-	.5040								47	-	.0997	-1
		50	61											
62	44	.0277	.3099		.0966 (.9958)	2.98	1.667 (55.826)	.700	6 (14)	Overlapping on Complex 12	-	57	.0322	-1
	46	.0001	.4044								44	-	.0437	-1
	47	.0208	.1786								-	61	.0623	-1
	49	.0318	.1987								154	-	.0790	-1
	51	-	.3583								46	-	.0866	-1
	58	.2074*	.0763								51	-	.0906	-1
	154	-	.5040								-	57	.0944	1
											49	-	.0963	-1
											47	-	.0966	-1
		158	159	164										
63	64	.2376	.0607	.0207	.0894 (.8501)	5.28	3.674 (56.906)	1.542	20 (36)	Overlapping on Complex 31	90	-	.0266	-1
	77	.1857	.1104	.0136							-	159	.0358	-1
	90	.0913	.0767	.1195							133	-	.0538	-1
	97	.0482	.1621	.1178							97	-	.0634	-1
	98	.0811	.1564	.0558							107	-	.0699	-1
	102	.2631	.1342	.0146							98	-	.0732	-1
	107	.0071	.2559	.0020							96	-	.0749	-1
	126	.2667	.0653	.0001							128	-	.0756	-1
	127	.0613	.1047	.1998*							129	-	.0762	-1

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers								E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
		158	159	164												Sup	Rec	E	±1
63 (contd)	129	.2611	.1578	.0106												-	158	.0768	-1
	132	.2857	.1001	.0001												102	-	.0813	-1
	133	.0263	.3592	.0012												132	-	.0846	-1
																126	-	.0863	-1
																64	-	.0875	-1
																77	-	.0885	-1
																96	-	.0891	1
																128	-	.0894	1
		61																	
64	44	.3099								.1253	2.90	1.777	.746	8	Repetitive	154	-	.0586	-1
	46	.4044								(.4403)		(56.906)		(8)	of	46	-	.0852	-1
	47	.1786													Complex 12	51	-	.1047	-1
	49	.1987*														44	-	.1184	-1
	51	.3583														47	-	.1221	-1
	54	.1662														54	-	.1247	-1
	60	.1358														60	-	.1253	-1
	154	.5040																	
		38	39	136	140	141	143	146	147										
65	13	.0016	.0057	.0779	.0791	-	.0142	.1973*	.0037	.0390	1.30	.836	.351	6	Overlapping on	-	140	.0230	-1
	146	.1064	.0788	.0343	.0932	.1245	.1146	-	.0825	(.8831)		(57.002)		(16)	Complex 56	-	136	.0272	-1
																146	-	.0301	-1
																-	143	.0339	-1
																-	141	.0368	-1
																-			

Table 1 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[0] of E: Sup	Rec	E	±1
65 (contd)											–	38	.0383	-1
											–	147	.0387	-1
											–	39	.0390	-1
		57	61											
66	44	.1970*	.3099		.1015 (.8631)	2.61	1.294 (57.107)	.543	5 (10)	Overlapping on Complex 12	–	61	.0422	-1
	46	.0001	.4044								154	–	.0722	-1
	51	.0003	.3583								46	–	.0885	-1
	58	.1791	.0763								51	–	.0986	-1
	154	–	.5040								58	–	.1015	-1
		60	61											
67	44	.1120	.3099		.1090 (.8017)	3.36	1.932 (57.493)	.811	6 (14)	Overlapping on Complex 12	47	–	.0301	-1
	45	.1962*	.0306								–	61	.0407	-1
	46	.0187	[illegible]								154	–	.0671	-1
	47	.1646	[illegible]								46	–	.0832	-1
	49	.0917	.1987								44	–	.0960	-1
	51	.0492	.3583								51	–	.1058	-1
	154	–	.5040								49	–	.1090	-1
		41	42	43										
68	40	.4920	.1929*	.0809	.0589 (.6797)	0.98	.298 (57.493)	.125	3 (3)	Repetitive of Complex 13	–	41	.0571	-1
											–	43	.0589	-1

Table 1 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers					E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[5] of E			
		25	26	27	30	31							Sup	Rec	E	±1
69	23	.0523	.1885*	.0031	.0326	–	.0302	.97	.964	.405	0	Independent	–	25	.0201	-1
	28	.0412	.0489	.0663	.0373	.0935	(.8712)		(58.457)		(15)		78	–	.0238	-1
	78	.0542	.0380	.0422	.0497	.0060							28	–	.0264	-1
													–	30	.0286	-1
													–	27	.0297	-1
													–	31	.0302	-1
		62	63	73	74	76										
70	2	.3376	.1880*	.4078	–	–						Overlapping on Complex 37	–	73	.0496	-1
	72	–	–	.3703	.6079	.5075	.1210	3.11	9.688	4.067	8		–	62	.0718	-1
							(.9194)		(58.730)		(10)		72	–	.0815	-1
													–	74	.1062	-1
													–	76	.1210	-1
		158														
71	63	.1752					.0995	2.30	1.375	.577	8	Repetitive of Complex 44	132	–	.0393	-1
	64	.2376					(.2456)		(58.730)		(8)		126	–	.0568	-1
	77	.1857*											102	–	.0715	-1
	102	.2631											129	–	.0842	-1
	126	.2667											64	–	.0937	-1
	129	.2611											63	–	.0985	-1
	132	.2857											136	–	.0995	-1
	136	.1162														

Table 1 (cont'd)

plex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers		E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[θ] of E: Sup	Rec	E	±1
		57	61										
72	44	.1970	.3099	.1015	2.61	1.294	.543	10	Repetitive	–	50	.0322	-1
	46	.0001	.4044	(.8631)		(58.730)		(10)	of	44	–	.0437	-1
	51	.0003	.3583						Complex 66	–	61	.0623	-1
	58	.1791*	.0763							154	–	.0790	-1
	154	–	.5040							46	–	.0866	-1
										–	50	.0928	1
										51	–	.1015	-1
		61											
73	44	.3099		.1253	2.90	1.777	.746	8	Repetitive	154	–	.0569	-1
	46	.4044		(.4403)		(58.730)		(8)	of	46	–	.0836	-1
	47	.1786*							Complex 12	51	–	.1032	-1
	49	.1987								44	–	.1170	-1
	51	.3583								49	–	.1221	-1
	54	.1662								54	–	.1247	-1
	60	.1358								60	–	.1253	-1
	154	.5040											
		158	159										
74	55	.0790	.1368	.1081	5.00	2.892	1.214	26	Repetitive	133	–	.0446	-1
	64	.2376	.0607	(.6011)		(58.730)		(26)	of	107	–	.0608	-1
	77	.1857	.1104						Complex 31	97	–	.0681	-1
	96	.0483	.1757*							129	–	.0740	-1
	97	.0482	.1621							98	–	.0792	-1
	98	.0811	.1564							55	–	.0826	-1

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
		158	159								Sup	Rec	E	±1
74 (contd)	102	.2631	.1342								102	-	.0854	-1
	107	.0071	.2559								-	158	.0905	-1
	126	.2667	.0653								132	-	.0978	-1
	129	.2611	.1578								126	-	.1023	-1
	132	.2857	.1001								64	-	.1053	-1
	133	.0263	.3592								77	-	.1078	-1
	136	.1162	.1108								136	-	.1081	-1
		158												
75	63	.1752*			.0995	2.30	1.375	.577	8	Repetitive of Complex 44	132	-	.0384	-1
	64	.2376			(.2456)		(58.730)		(8)		126	-	.0560	-1
	77	.1857									102	-	.0708	-1
	102	.2631									129	-	.0835	-1
	126	.2667									64	-	.0931	-1
	129	.2611									77	-	.0985	-1
	132	.2857									136	-	.0995	-1
	136	.1162												
		64	158	159										
76	62	.1701*	.0476	.0313	.0826	4.24	2.855	1.199	17	Overlapping on Complex 44 and Complex 74	-	65	.0210	-1
	63	.0548	.1752	.0434	(.9851)		(59.551)		(30)		-	67	.0233	-1
	64	-	.2376	.0607							-	158	.0251	-1
	77	.0040	.1857	.1104							132	-	.0354	-1
	102	.0001	.2631	.1342							126	-	.0411	-1
	107	.0002	.0071	.2559							102	-	.0449	-1
	126	.0006	.2667	.0653							-	67	.0507	1

Table 1 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers								E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation of E			
		64	158	159												Sup	Rec	E	±1
76 (contd)	129	-	.2611	.1578												-	65	.0574	1
	132	-	.2857	.1001												129	-	.0648	-1
	133	.0002	.0263	.3592												-	159	.0714	-1
																133	-	.0775	-1
																77	-	.0797	-1
																64	-	.0814	-1
																63	-	.0822	-1
																107	-	.0826	-1
		16	17	18	22	23	29	35	144										
77	1	.3902	.2798	.3745	.1305	.2940	.4105	.4232	-	.1110	3.71	9.361	3.930	14	Overlapping on	-	22	.0359	-1
	29	.1444	.0001	.0017	.2620	.0069	-	.0002	.1694*	(.8968)		(59.644)		(16)	Complex 51 i.e.	-	16	.0443	-1
															51 is nested	1	-	.0685	-1
															on 77	-	35	.0844	-1
																-	29	.0965	-1
																-	18	.1048	-1
																-	23	.1086	-1
																-	17	.1110	-1
		56	61																
78	44	.1681*	.3099							.0978	2.51	1.180	.495	5	Overlapping on	-	61	.0398	-1
	46	.0020	.4044							(.9257)		(59.678)		(10)	Complex 12	154	-	.0701	-1
	49	.0088	.1987													46	-	.0868	-1
	51	.0009	.3583													51	-	.0971	-1
	154	-	.5040													49	-	.0978	-1

Inter-industrial Linkages (b_{ij}'s)

plex No.	Suppliers	Receivers		E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
		61								Sup	Rec	E	±1
79	44	.3099		.1253	2.90	1.777	.746	8	Repetitive	154	-	.0559	-1
	46	.4044		(.4403)		(59.678)		(8)	of	46	-	.0827	-1
	47	.1786							Complex 12	51	-	.1024	-1
	49	.1987								44	-	.1162	-1
	51	.3583								49	-	.1213	-1
	54	.1662*								47	-	.1247	-1
	60	.1358								60	-	.1253	-1
	154	.5040											
		1	40										
80	16	.0019	.1650*	.0758	1.75	1.841	.773	3	Overlapping on	147	-	.0163	-1
	22	.4299	.0004	(1.0885)		(59.803)		(8)	Complex 20	-	1	.0184	-1
	50	.3496	-							22	-	.0430	-1
	140	.4176	.0004							140	-	.0614	-1
										50	-	.0728	-1
										147	-	.0758	1
		60	61										
81	44	.1120	.3099	.1090	3.36	1.932	.811	14	Repetitive	45	-	.0301	-1
	45	.1962	.0306	(.8017)		(59.803)		(14)	of	-	61	.0407	-1
	46	.0187	.4044						Complex 67	154	-	.0671	-1
	47	.1646*	.1786							46	-	.0832	-1
	49	.0917	.1987							44	-	.0960	-1
	51	.0492	.3583							51	-	.1058	-1
	154	-	.5040							49	-	.1090	-1

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers							E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[5] of E			
		89	96	97	98	99	100	164							Sup	Rec	E	±1
82	86	.3339	.0858	.2358	.0743	.2263	.1642*	.0780	.0705	1.54	2.360	.991	7	Repetitive	-	89	.0415	-1
									(.5368)		(59.803)		(7)	of	-	97	.0565	-1
														Complex 38	-	99	.0686	-1
															-	96	.0697	-1
															-	164	.0702	-1
															-	98	.0705	-1
		158	159															
83	55	.0790	.1368						.1081	5.00	2.892	1.214	26	Repetitive	133	-	.0434	-1
	64	.2376	.0607						(.6011)		(59.803)		(26)	of	107	-	.0598	-1
	77	.1857	.1104											Complex 31	96	-	.0681	-1
	96	.0483	.1757												129	-	.0740	-1
	97	.0482	.1621*												98	-	.0792	-1
	98	.0811	.1564												55	-	.0826	-1
	102	.2631	.1342												102	-	.0854	-1
	107	.0071	.2559												-	158	.0905	-1
	126	.2667	.0653												132	-	.0978	-1
	129	.2611	.1578												126	-	.1023	-1
	132	.2857	.1001												64	-	.1053	-1
	133	.0263	.3592												77	-	.1078	-1
	136	.1162	.1108												136	-	.1081	-1
		44	61															
84	44	-	.3099						.1010	3.11	1.748	.734	7	Overlapping on	-	61	.0271	-1
	46	.0010	.4044						(.9216)		(59.969)		(14)	Complex 12	154	-	.0592	-1

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers				E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[δ] of E			
		44	61									Sup	Rec	E	±1
84	47	.0871	.1786									46	–	.0772	-1
(contd)	49	.0514	.1987									51	–	.0288	-1
	51	.0062	.3583									44	–	.0954	-1
	54	.1588*	.1662									47	–	.0988	-1
	154	–	.5040									49	–	.1010	-1
		75	78	79	80										
85	74	.2945	.2557	.1562	.1580*	.0756	1.75	2.460	1.033	8	Repetitive	81	–	.0501	-1
	81	–	.0482	.0045	.4432	(.8546)		(59.969)		(8)	of	–	78	.0646	-1
											Complex 17	–	75	.0750	-1
												–	79	.0756	-1
		158	159												
86	55	.0790	.1368			.1081	5.00	2.892	1.214	26	Repetitive	133	–	.0431	-1
	64	.2376	.0607			(.6011)		(59.969)		(26)	of	107	–	.0595	-1
	77	.1857	.1104								Complex 31	96	–	.0678	-1
	96	.0483	.1757									97	–	.0740	-1
	97	.0482	.1621									98	–	.0792	-1
	98	.0811	.1564									55	–	.0826	-1
	102	.2631	.1342									102	–	.0854	-1
	107	.0071	.2559									–	158	.0905	-1
	126	.2667	.0653									132	–	.0978	-1
	129	.2611	.1578*									126	–	.1023	-1
	132	.2857	.1001									64	–	.1053	-1
	133	.0263	.3592									77	–	.1078	-1
	136	.1162	.1108									136	–	.1081	-1

Table 1 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers				E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
		158	159									Sup	Rec	E	±1
87	55	.0790	.1368			.1081	5.00	2.892	1.214	26	Repetitive	133	-	.0430	-1
	64	.2376	.0607			(.6011)		(59.969)		(26)	of	107	-	.0593	-1
	77	.1857	.1104								Complex 31	96	-	.0677	-1
	96	.0483	.1757									97	-	.0740	-1
	97	.0482	.1621									129	-	.0792	-1
	98	.0811	.1564*									55	-	.0826	-1
	102	.2631	.1342									102	-	.0854	-1
	107	.0071	.2559									-	158	.0905	-1
	126	.2667	.0653									132	-	.0978	-1
	129	.2611	.1578									126	-	.1023	-1
	132	.2857	.1001									64	-	.1053	-1
	133	.0263	.3592									77	-	.1078	-1
	136	.1162	.1108									136	-	.1081	-1
		75	78	79	80										
88	74	.2945	.2557	.1562*	.1580	.0756	1.75	2.460	1.033	8	Repetitive	-	75	.0376	-1
	81	-	.0482	.0045	.4432	(.8546)		(59.969)		(8)	of	-	78	.0543	-1
											Complex 17	-	80	.0617	-1
												81	-	.0756	-1
		85	92												
89	4	.0010	.6582			.1268	3.58	5.743	2.411	10	Overlapping on	4	-	.0673	-1
	5	-	.1489*			(1.0477)		(60.268)		(12)	Complex 4	130	-	.0718	-1
	82	.4166	-								or Complex 4 is	-	85	.0786	-1
	84	.6253	-								nested on this	84	-	.1046	-1
	87	.4690	.0218								Complex	87	-	.1187	-1

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers							E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation§ of E			
		85	92												Sup	Rec	E	±1
89 (contd)	130	.3238	.1257												82	-	.1268	-1
		72	83	92														
90	4	.0003	-	.6582					.0950 (1.1169)	1.95	3.419 (60.383)	1.435	4 (6)	Overlapping on Complex 4; Complex 4 is nested on this Complex	-	83	.0651	-1
	8	.1445*	.6362	.0808											-	92	.0663	-1
															4	-	.0950	-1
		16	17	18	22	23	29	35										
91	1	.3902	.2798	.3745	.1305	.2940	.4105	.4232	.1132 (.8528)	3.49	9.268 (60.383)	3.891	14 (14)	Repetitive of Complex 51	1	-	.0445	-1
	29	.1444*	.0001	.0017	.2620	.0069	-	.0002							-	35	.0684	-1
															-	29	.0855	-1
															-	22	.0978	-1
															-	18	.1069	-1
															-	23	.1108	-1
															-	17	.1132	-1
		59	61															
92	44	.0232	.3099						.1002 (.9291)	3.09	1.715 (60.516)	.720	7 (14)	Overlapping on Complex 12	-	61	.0266	-1
	46	.0048	.4044												154	-	.0588	-1
	47	.1407*	.1786												46	-	.0770	-1
	49	.0288	.1987												51	-	.0886	-1
	51	.0033	.3583												44	-	.0964	-1
	54	.0830	.1662												54	-	.0989	-1
	154	-	.5040												49	-	.1002	-1

Table 1 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation of E			
		158	159								Sup	Rec	E	±1
93	55	.0790	.1368*		.1081	5.00	2.892	1.214	26	Repetitive	133	-	.0413	-1
	64	.2376	.0607		(.6011)		(60.516)		(26)	of	107	-	.0572	-1
	77	.1857	.1104							Complex 31	96	-	.0663	-1
	96	.0483	.1757								97	-	.0726	-1
	97	.0482	.1621								129	-	.0780	-1
	98	.0811	.1564								98	-	.0826	-1
	102	.2631	.1342								102	-	.0854	-1
	107	.0071	.2559								-	158	.0905	-1
	126	.2667	.0653								132	-	.0978	-1
	129	.2611	.1578								126	-	.1023	-1
	132	.2857	.1001								64	-	.1053	-1
	133	.0263	.3592								77	-	.1078	-1
	136	.1162	.1108								136	-	.1081	-1
		83	85	88										
94	8	.6362	.0005	-	.1270	3.59	2.799	1.175	7	Overlapping on	8	-	.0644	-1
	82	.1364*	.4166	.5105	(1.1210)		(60.617)		(12)	Complex 45	-	88	.0917	-1
	84	-	.6253	-							-	85	.1063	-1
	87	-	.4690	-							84	-	.1224	-1
											87	-	.1270	-1
		61												
95	44	.3099			.1253	2.90	1.777	.746	8	Repetitive	154	-	.0533	-1
	46	.4044			(.4403)		(60.617)		(8)	of	46	-	.0803	-1
	47	.1786								Complex 12	51	-	.1002	-1
	49	.1987									44	-	.1142	-1

Table 1 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers		E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation of E			
		61								Sup	Rec	E	±1
95	51	.3583								49	-	.1194	-1
(contd)	54	.1662								47	-	.1229	-1
	60	.1358*								54	-	.1253	-1
	154	.5040											
		158	159										
96	64	.2376	.0607	.1081	4.72	2.800	1.175	24	Repetitive	133	-	.0411	-1
	77	.1857	.1104	(.6035)		(60.617)		(24)	of	107	-	.0576	-1
	96	.0483	.1757						Complex 31	96	-	.0661	-1
	97	.0482	.1621							97	-	.0725	-1
	98	.0811	.1564							129	-	.0778	-1
	102	.2631	.1342*							-	158	.0863	-1
	107	.0071	.2559							132	-	.0952	-1
	126	.2667	.0653							126	-	.1007	-1
	129	.2611	.1578							64	-	.1041	-1
	132	.2857	.1001							77	-	.1070	-1
	133	.0263	.3592							98	-	.1078	-1
	136	.1162	.1108							136	-	.1081	-1
		1											
97	22	.4299		.0950	1.71	1.920	.806	4	Repetitive	22	-	.0469	-1
	50	.3496		(.3582)		(60.617)		(4)	of	140	-	.0754	-1
	105	.1332*							Complex 20	50	-	.0950	-1
	140	.4176											

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers							E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation of E			
		94	95	149											Sup	Rec	E	±1
98	92	.3502	.1305*	.0709					.0424 (.6530)	.71	.593 (60.617)	.249	3 (3)	Repetitive of Complex 34	-	94	.0401	-1
															-	149	.0424	-1
		16	17	18	22	23	29	35										
99	1	.3902	.2798	.3745	.1305*	.2940	.4105	.4232	.1354 (.2915)	2.96	8.998 (60.617)	3.778	7 (7)	Overlapping on Complex 21 and Complex 51	-	35	.0461	-1
															-	29	.0742	-1
															-	16	.0967	-1
															-	18	.1153	-1
															-	23	.1264	-1
															-	17	.1354	-1
		19	110															
100	18	.1304*	.0002						.0574 (1.3821)	1.03	2.107 (60.693)	.885	1 (4)	Overlapping on Complex 3.	134	-	.0128	-1
	112	-	.6725												-	110	.0165	-1
															112	-	.0565	-1
															134	-	.0574	1

TABLE 2

Characterization of Industrial Complexes from I-O Table, Canada 1966.

(k = 10)

Complex No.	Inter-industrial Linkages (b_{ij}'s): Suppliers	Receivers: 85	Receivers: 86	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
1	82	.4006	.2615	.1513	3.94	6.636	2.727	0	Independent	82	-	.0885	-1
	84	.6881	-	(.9435)		(6.636)		(10)		-	88	.1120	-1
	85	-	.8006*							-	85	.1230	-1
	87	.5334	-							84	-	.1398	-1
	130	.3208	.0214							87	-	.1450	-1
										-	88	.1491	1
										130	-	.1513	-1

* Starting element

** This column is intended to describe the relevance of the present complex to the complexes obtained previously i.e. whether the present complex is independent of the earlier ones or whether it resembles them by characteristics like 'overlapping', 'nested' or 'repetitive' types.

σ Starting element characterized by an asterik is not shown here since the element has to be retained anyway by the method we have followed.

N.B. For the notation See Appendix 2.

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (bij's): Receivers				E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation of E: Sup	Rec	E	±1
		72	83	124	146										
2	8	.1244	.7831*	.0803	.0909	.0770 (1.1009)	1.40	.370 (7.006)	.152	0 (4)	Independent	-	72	.0756	-1
												-	146	.0768	-1
												-	124	.0770	-1
		137													
3	9	.7655*				.0696 (.0032)	1.00	3.698 (10.703)	1.520	0 (1)	Independent	-	-	-	-
		85													
4	82	.4006				.1388 (.2869)	2.53	2.831 (10.703)	1.164	4 (4)	Nested on Complex 1	87	-	.1018	-1
	84	.6881*										82	-	.1248	-1
	87	.5334										130	-	.1388	-1
	130	.3208													
		110													
5	38	.0791				.0687 (1.0598)	1.25	3.542 (14.246)	1.456	0 (4)	Independent	134	-	.0667	-1
	58	.0824										58	-	.0679	-1
	112	.6810*										38	-	.0687	-1
	134	.1194													
		85	92												
6	4	.0004	.6327*			.1373 (.9534)	3.57	5.710 (17.125)	2.347	4 (10)	Overlapping on Complex 1	130	-	.0632	-1
	82	.4006	-									-	159	.0777	-1
	84	.6881	-									133	-	.0886	-1
	87	.5334	.0440									-	85	.0915	-1
	130	.3208	.1260									84	-	.1103	-1

Table 2 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[c] of E: Sup	Rec	E	±1
6 (contd)									87	-	.1202	-1
									82	-	.1216	-1
									-	159	.1248	1
									133	-	.1373	1
		73 74 76										
7	72	.5871 .3429 .5081	.1289	2.68	8.982	3.691	0	Independent	72	-	.0806	-1
	73	- .6248* -	(.7524)		(26.106)		(6)		-	73	.1111	-1
									-	76	.1289	-1
		73 74 76										
8	72	.5871* .3429 .5081	.1289	2.68	8.982	3.691	6	Repetitive of Complex 7	-	76	.0913	-1
	73	- .6248 -	(.7524)		(26.106)		(6)		-	74	.1106	-1
									73	-	.1289	-1
		20										
9	3	.5772*	.0525	.75	.516	.212	0	Independent	-	-	-	-
			(.0032)		(26.622)		(1)					
		36										
10	35	.5601*	.0509	.73	.385	.158	0	Independent	-	-	-	-
			(.0032)		(27.007)		(1)					
		85										
11	82	.4006	.1388	2.53	2.831	1.164	4	Nested on Complex 1	84	-	.1018	-1
	84	.6881	(.2869)		(27.007)		(4)		82	-	.1248	-1
									130	-	.1388	-1

Table 2 (cont'd)

Complex No.	Inter-industrial Linkages (b_{ij}'s) Suppliers	Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
											Sup	Rec	E	±1
		85												
11	87	.5334*												
(contd)	130	.3208												
		41	61											
12	40	.5213*	.0698		.1004 (1.0317)	2.87	1.487 (28.494)	.611	0 (12)	Independent	-	42	.0613	-1
	44	.0131	.2074								-	43	.0638	-1
	46	.0001	.3851								-	61	.0642	-1
	47	.0002	.2134								154	-	.0768	-1
	51	.0110	.3059								46	-	.0809	-1
	154	-	.4822								-	43	.0881	1
											-	42	.0912	1
											51	-	.0986	-1
											44	-	.0998	-1
											47	-	.1004	-1
		73	74	76										
13	72	.5871	.3429	.5081*	.1289 (.7524)	2.68	8.982 (28.494)	3.691	6 (6)	Repetitive of Complex 7	-	73	.0913	-1
	73	-	.6248	-							-	74	.1106	-1
											73	-	.1289	-1
		85	88											
14	82	.4006	.5057*		.1360 (.8391)	3.19	2.867 (28.529)	1.178	4 (8)	Nested on Complex 1	-	85	.0755	-1
	84	.6881	-								84	-	.1139	-1
	87	.5334	-								87	-	.1330	-1
	130	.3208	-								130	-	.1360	-1

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (bij's): Receivers		E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industrie in the maximisation[§] of E: Sup	Rec	E	±1
		61											
15	44	.2074		.1174 (.4145)	2.75	1.546 (28.840)	.636	5 (8)	Overlapping on Complex 12	46	-	.0723	-
	46	.3851								51	-	.0902	-
	47	.2134								47	-	.0990	-
	49	.1553								44	-	.1063	-
	51	.3059								54	-	.1123	-
	54	.2028								60	-	.1152	-
	60	.1613								49	-	.1174	-
	154	.4822*											
		46	61										
16	44	.0125	.2074	.0990 (.9996)	3.09	1.381 (28.938)	.568	6 (14)	Overlapping on Complex 15	-	45	.0562	-
	46	-	.3851							-	70	.0608	-
	47	.0423	.2134							-	52	.0629	-
	48	.4409*	.0710							-	61	.0634	-
	51	.0028	.3059							154	-	.0717	
	54	.0089	.2028							-	52	.0746	
	154	-	.4822							46	-	.0798	
										-	70	.0860	
										47	-	.0884	
										-	45	.0908	
										51	-	.0972	
										44	-	.0983	
										54	-	.0990	

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers						E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
														Sup	Rec	E	±1
		1															
17	13	.1402						.0754	1.37	1.725	.709	0	Independent	50	-	.0579	-1
	22	.4203*						(.3872)		(30.663)		(4)		140	-	.0704	-1
	50	.2749												13	-	.0754	-1
	140	.2193															
		16	17	18	23	29	35										
18	1	.3824	.3314	.3159	.1755	.3720	.4057*	.1239	2.58	7.194	2.956	0	Independent	-	16	.0657	-1
								(.2288)		(37.856)		(6)		-	29	.0892	-1
														-	17	.1065	-1
														-	18	.1205	-1
														-	23	.1239	-1
		85															
19	82	.4006*						.1388	2.53	2.831	1.164	4	Repetitive of Complex 4	84	-	.0907	-1
	84	.6881						(.2869)		(37.856)		(4)		87	-	.1248	-1
	87	.5334												130	-	.1388	-1
	130	.3208															
		84	85	88													
20	82	.3999*	.4006	.5057				.1330	3.29	3.597	1.478	6	Overlapping on Complex 14	-	88	.0755	-1
	84	-	.6881	-				(.9377)		(38.655)		(9)		-	85	.1005	-1
	87	-	.5334	-										84	-	.1246	-1
														87	-	.1330	-1

Table 2 (cont'd)

Complex No.	Inter-industrial Linkages (b_{ij}'s): Suppliers	Inter-industrial Linkages (b_{ij}'s): Receivers	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation° of E: Sup	Rec	E	±1
		61										
21	44	.2074	.1174 (.4145)	2.75	1.546 (38.655)	.636	8 (8)	Repetitive of Complex 15	154	-	.0723	-1
	46	.3851*							51	-	.0902	-1
	47	.2134							47	-	.0990	-1
	49	.1553							44	-	.1063	-1
	51	.3059							54	-	.1123	-1
	54	.2028							60	-	.1152	-1
	60	.1613							49	-	.1174	-1
	154	.4822										
		16 17 18 23 29 35							-	35	.0657	-1
22	1	.3824* .3314 .3159 .1755 .3720 .4057	.1239 (.2288)	2.58	7.194 (38.655)	2.956	6 (6)	Repetitive of Complex 18	-	29	.0892	-1
									-	17	.1065	-1
									-	18	.1205	-1
									-	23	.1239	-1
		127 128 131							14	-	.0423	-1
23	14	.0525 .1274 .1085	.0490 (.9152)	1.02	.478 (39.133)	.197	0 (6)	Independent	-	127	.0482	-1
	124	.1139 .3804* .0017							-	131	.0490	-1
		94 95 121 149							-	95	.0414	-1
24	92	.3738* .1234 .0497 .0767	.0445 (.8244)	.81	.874 (40.008)	.359	0 (4)	Independent	-	149	.0441	-1
									-	121	.0445	-1

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers						E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industri in the maximisation[σ] of			
		16	17	18	23	29	35							Sup	Rec	E	±
25	1	.3824	.3314	.3159	.1755	.3720*	.4057	.1239	2.58	7.194	2.956	6	Repetitive	-	35	.0648	-
								(.2288)		(40.008)		(6)	of	-	16	.0892	-
													Complex 18	-	17	.1065	-
														-	18	.1205	-
														-	23	.1239	-
		75	78	80													
26	74	.2754	.2378	.1576				.0675	1.40	1.820	.748	0	Independent	74	-	.0441	-
	81	-	.0373	.3713*				(.7259)		(41.828)		(6)		-	75	.0575	-
														-	78	.0675	-
		85	159	161													
27	82	.4006	-	-				.1092	3.98	3.565	1.465	4	Overlapping	15	-	.0412	-
	84	.6881	-	-				(1.2888)		(42.562)		(18)	on	-	9	.0421	-
	87	.5334	-	-									Complex 1	-	159	.0423	-
	89	.0007	.0854	.3688*										133	-	.0530	-
	130	.3208	.3289	.0001										130	-	.0607	-
	133	.0003	.3293	.0003										0	9	.0689	
														0	85	.0710	[illegible]
														84	-	.0900	-
														87	-	.0994	-
														15	-	.1062	
														82	-	.1092	-

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (bij's) Receivers						E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industrie[s] in the maximisation$^{\sigma}$ of E[...]			
														Sup	Rec	E	±I
28		84	85					.1373 (.8654)	3.57	3.791 (42.723)	1.558	7 (10)	Overlapping on Complex 1 and Complex 20	82	-	.0640	-1
	82	.3999	.4006											-	88	.0910	-1
	83	.3687*	.0230											-	85	.1061	-1
	84	-	.6881											84	-	.1256	-1
	87	-	.5334											87	-	.1327	-1
	130	.0106	.3208											-	88	.1341	1
														130	-	.1373	-1
29		98	122					.0409 (.9155)	.75	.611 (43.334)	.251	0 (4)	Independent	93	-	.0389	-1
	93	.1017	.1075											-	98	.0409	-1
	94	.0048	.3592*														
30		73	74	76				.1289 (.7524)	2.68	8.982 (43.334)	3.691	6 (6)	Repetitive of Complex 7	73	-	.0806	-
	72	.5871	.3429*	.5081										-	73	.1111	-
	73	-	.6248	-										-	76	.1289	-
31		93	135					.0344 (.6084)	.54	.360 (43.695)	.148	0 (2)	Independent	-	135	.0344	-
	91	.3323*	.0809														
32		16	17	18	23	29	35	.1239 (.2288)	2.58	7.194 (43.695)	2.956	6 (6)	Repetitive of Complex 18	-	35	.0614	-
	1	.3824	.3314*	.3159	.1755	.3720	.4057							-	16	.0861	-
														-	29	.1065	-
														-	18	.1205	-
														-	23	.1239	-

Complex No.	Suppliers	Inter-industrial Linkages (bij's) Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
33		85	159		.1301 (.9107)	3.38	3.040 (43.695)	1.249	10 (10)	Nested on Complex 27	130	-	.0548	-1
	82	.4006	-								-	85	.0699	-1
	84	.6881	-								84	-	.1042	-1
	87	.5334	-								87	-	.1223	-1
	130	.3208	.3289								82	-	.1301	-1
	133	.0003	.3293*											
34		85	159		.1301 (.9107)	3.38	3.040 (43.695)	1.249	10 (10)	Repetitive of Complex 33	133	-	.0548	-1
	82	.4006	-								-	85	.0699	-1
	84	.6881	-								84	-	.1042	-1
	87	.5334	-								87	-	.1223	-1
	130	.3208	.3289*								82	-	.1301	-1
	133	.0003	.3293											
35		73	74	76	.1257 (.9588)	3.11	10.529 (45.242)	4.328	6 (9)	Nested on Complex 7	72	-	.0761	-1
	2	.3263*	-	-							-	76	.1015	-1
	72	.5871	.3429	.5081							-	74	.1103	-1
	73	-	.6248	-							73	-	.1257	-1
36		85			.1388 (.2869)	2.53	2.831 (45.242)	1.164	4 (4)	Repetitive of Complex 4	84	-	.0841	-1
	82	.4006									87	-	.1186	-1
	84	.6881									82	-	.1388	-1
	87	.5334												
	130	.3208*												

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers						E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
		16	17	18	23	29	35							Sup	Rec	E	±1
37	1	.3824	.3314	.3159*	.1755	.3720	.4057	.1239 (.2288)	2.58	7.194 (45.242)	2.956	6 (6)	Repetitive of Complex 18	-	35	.0601	-1
														-	16	.0849	-1
														-	29	.1054	-1
														-	17	.1205	-1
														-	23	.1239	-1
		62	73	74	76												
38	2	.3146*	.3263	-	-			.1229 (1.0769)	3.52	11.722 (46.435)	4.818	9 (12)	Nested on Complex 35	-	73	.0534	-1
	72	-	.5871	.3429	.5081									72	-	.0877	-1
	73	.0005	-	.6248	-									-	76	.1085	-1
														-	74	.1155	-1
														73	-	.1229	
		61															
39	44	.2074						.1174 (.4145)	2.75	1.546 (46.435)	.636	8 (8)	Repetitive of Complex 15	154	-	.0657	-1
	46	.3851												46	-	.0902	-1
	47	.2134												47	-	.0990	-1
	49	.1553												44	-	.1063	-1
	51	.3059*												54	-	.1123	-1
	54	.2028												60	-	.1152	-1
	60	.1613												49	-	.1174	-1
	154	.4822															

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (bij's): Receivers								E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[δ] of E: Sup	Rec	E	±1
		89	96	97	98	99	100	104	112										
40	86	.3021*	.0756	.2157	.0715	.2006	.1451	.0800	.0915	.0657 (.5350)	1.54	2.536 (48.971)	1.042	0 (8)	Independent	-	97	.0431	-1
																-	99	.0553	-1
																-	100	.0617	-1
																-	112	.0637	-1
																-	104	.0647	-1
																-	96	.0653	-1
																-	98	.0657	-1
		84	85	87	88														
41	82	.3999	.4006	.2772*	.5057					.1275 (1.0734)	3.65	3.650 (49.204)	1.500	9 (12)	Nested on Complex 20	-	88	.0652	-1
	84	-	.6881	-	-											-	85	.0910	-1
	87	-	.5334	-	-											84	-	.1170	-1
																87	-	.1266	-1
																-	84	.1275	-1
		158	159																
42	63	.1683	.0496							.1045 (.5857)	4.08	2.313 (51.129)	.951	2 (20)	Overlapping on Complex 27	64	-	.0438	-1
	64	.2495	.0767													132	-	.0584	-1
	77	.1661	.1292													102	-	.0687	-1
	98	.0604	.1608													129	-	.0771	-1
	102	.2035	.1351													-	159	.0855	-1
	126	.2762*	.0845													133	-	.0935	-1
	129	.1948	.1544													130	-	.1000	-1
	130	.0129	.3289													77	-	.1036	-1
	132	.2329	.1027													98	-	.1041	-1
	133	.0180	.3293													63	-	.1045	-1

Complex No.	Suppliers	Inter-industrial Linkages (bij's) Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[∇] of E			
		75	78	80							Sup	Rec	E	±1
43	74	.2754*	.2378	.1576	.0675 (.7259)	1.40	1.820 (51.129)	.748	6 (6)	Repetitive of Complex 26	-	78	.0428	-1
	81	-	.0373	.3713							-	80	.0516	-1
											81	-	.0675	-1
44		1			.0754 (.3872)	1.37	1.725 (51.129)	.709	4 (4)	Repetitive of Complex 17	22	-	.0579	-1
	13	.1408									140	-	.0704	-1
	22	.4203									13	-	.0754	-1
	50	.2749*												
	140	.2193												
45		85	86		.1513 (.9435)	3.94	6.636 (51.129)	2.727	10 (10)	Repetitive of Complex 1	85	-	.0885	-1
	82	.4006	.2615*								-	88	.1120	-1
	84	.6881	-								-	85	.1230	-1
	85	-	.8006								84	-	.1398	-1
	87	.5334	-								87	-	.1450	-1
	130	.3208	.0214								-	88	.1491	[illegible]
											130	-	.1513	[illegible]
46		158	159		.1045 (.5857)	4.08	2.313 (51.129)	.951	20 (20)	Repetitive of Complex 42	126	-	.0438	[illegible]
	63	.1683	.0496								132	-	.0584	[illegible]
	64	.2495*	.0767								102	-	.0687	[illegible]
	77	.1661	.1292								129	-	.0771	[illegible]
	98	.0604	.1608								-	159	.0855	[illegible]
	102	.2035	.1351								133	-	.0935	[illegible]
	126	.2762	.0845											

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers						E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[δ] of E: Sup	Rec	E	±1
		158	159														
														130	-	.1000	-1
46 (contd)	129	.1948	.1544											77	-	.1036	-1
	130	.0129	.3289											98	-	.1041	-1
	132	.2329	.1027											63	-	.1045	-1
	133	.0180	.3293														
		16	17	18	22	29	35										
47	1	.3824	.3314	.3159	.1146	.3720	.4057	.1026 (.8622)	2.94	7.462 (51.731)	3.067	5 (12)	Overlapping on Complex 18	1	-	.0301	-1
	29	.0376	-	.0015	.2465*	-	-							-	16	.0594	-1
														-	35	.0773	-1
														-	29	.0894	-1
														-	17	.0970	-1
														-	18	.1026	-1
		159	160														
48	77	.1292	.0357					.0791 (.7845)	3.09	2.365 (53.478)	.972	5 (20)	Overlapping on Complex 42	128	-	.0301	-1
	97	.1510	.0739											-	159	.0386	-1
	98	.1608	.0739											133	-	.0544	-1
	123	.1610	.0062											130	-	.0666	-1
	127	.1126	.0661											98	-	.0717	-1
	128	.1165	.1159											97	-	.0754	-1
	129	.1544	.0479											129	-	.0776	-1
	130	.3289	.0002											127	-	.0785	-1
	133	.3293	.0005											123	-	.0788	-1
	138	.0626	.2457*											77	-	.0791	-1

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[δ] of E Sup	Rec	E	±1
		75	78	80										
49	74	.2754	.2378*	.1576	.0675 (.7259)	1.40	1.820 (53.478)	.748	6 (6)	Repetitive of Complex 26	-	75	.0428	-1
	81	-	.0373	.3713							-	80	.0516	-1
											81	-	.0675	-1
		45	46	61										
50	46	.0211	-	.3851	.0902 (1.1402)	2.93	.993 (53.512)	.408	10 (15)	Overlapping on Complex 16	-	46	.0562	-1
	47	.0561	.0423	.2134							-	70	.0608	-1
	48	.2338*	.4409	.0710							-	52	.0629	-1
	51	.0001	.0028	.3059							-	61	.0634	-1
	154	-	-	.4822							154	-	.0717	-1
											-	52	.0746	1
											46	-	.0798	-1
											-	70	.0860	1
											47	-	.0884	-1
											51	-	.0902	-1
		158	159											
51	63	.1683	.0496		.1045 (.5857)	4.08	2.313 (53.512)	.951	20 (20)	Repetitive of Complex 42	126	-	.0424	-1
	64	.2495	.0767								64	-	.0584	-1
	77	.1661	.1292								102	-	.0687	-1
	98	.0604	.1608								129	-	.0771	-1
	102	.2035	.1351								-	159	.0855	-1
	126	.2762	.0845								133	-	.0935	-1
	129	.1948	.1544								130	-	.1000	-1
	130	.0129	.3289								77	-	.1036	-1
	132	.2329*	.1027								98	-	.1041	-1

Complex No.	Suppliers	Inter-industrial Linkages (bij's): Receivers								E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
		158	159																
51 (contd)	133	.0180	.3293													63	-	.1045	-1
		159	164																
52	96	.1590	.0061							.0775 (.8287)	2.82	2.618 (54.451)	1.076	8 (18)	Overlapping on Complex 48	97	-	.0290	-1
	97	.1510	.1196													-	159	.0437	-1
	98	.1608	.0596													133	-	.0589	-1
	123	.1610	.0014													130	-	.0706	-1
	127	.1126	.2283*													98	-	.0746	-1
	128	.1165	.0693													128	-	.0763	-1
	129	.1544	.0109													129	-	.0768	-1
	130	.3289	.0003													96	-	.0772	-1
	133	.3293	.0017													123	-	.0775	-1
		1																	
53	13	.1408								.0754 (.3872)	1.37	1.725 (54.451)	.709	4 (4)	Repetitive of Complex 17	22	-	.0533	-1
	22	.4203														50	-	.0704	-1
	50	.2749														13	-	.0754	-1
	140	.2193*																	
		89	96	97	98	99	100	104	112										
54	86	.3021	.0756	.2157*	.0715	.2006	.1451	.0800	.0915	.0657 (.5350)	1.54	2.536 (54.451)	1.042	8 (8)	Repetitive of Complex 40	-	89	.0431	-1
																-	99	.0553	-1
																-	100	.0617	-1
																-	112	.0637	-1
																-	104	.0647	-1

Complex No.	Inter-industrial Linkages (bij's): Suppliers	Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[5] of E: Sup	Rec	E	±1
54 (contd)											-	96	.0653	-1
											-	98	.0657	-1
55		41	42	61										
	40	.5213	.2146*	.0698	.0905 (1.1889)	2.59	.656 (54.471)	.270	8 (12)	Overlapping on Complex 12	-	41	.0613	-1
	46	.0001	.0004	.3851							-	43	.0638	-1
	51	.0110	.0006	.3059							-	61	.0642	-1
	154	-	-	.4822							154	-	.0768	-1
											46	-	.0809	-1
											-	43	.0891	1
											51	-	.0905	-1
56		61												
	44	.2074			.1174 (.4145)	2.75	1.546 (54.471)	.636	8 (8)	Repetitive of Complex 15	154	-	.0580	-1
	46	.3851									46	-	.0831	-1
	47	.2134*									51	-	.0990	-1
	49	.1553									44	-	.1063	-1
	51	.3059									54	-	.1123	-1
	54	.2028									60	-	.1152	-1
	61	.1613									49	-	.1174	-1
	154	.4822												
57		118	123											
	68	.0683	-		.0250 (1.0188)	.52	.461 (54.932)	.189	0 (6)	Independent	68	-	.0233	-
	119	.2119*	.0357								120	-	.0242	-
	120	.0349	.0500								-	123	.0250	-

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (bij's): Receivers 38	39	140	141	143	147	152	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
58	141	.0179	.0255	–	–	.0868	.0360	.2087*	.0447 (.7476)	1.40	1.152 (56.085)	.474	0 (14)	Independent	–	143	.0246	-1
	146	.1105	.0776	.1066	.1337	.1195	.1053	.0449							146	–	.0329	-1
															–	147	.0376	-1
															–	141	.0408	-1
															–	38	.0432	-1
															–	140	.0441	-1
															–	39	.0447	-1
		61																
59	44	.2074*							.1174 (.4145)	2.75	1.546 (56.085)	.636	8 (8)	Repetitive of Complex 15	154	–	.0575	-1
	46	.3851													46	–	.0827	-1
	47	.2134													51	–	.0986	-1
	49	.1553													47	–	.1063	-1
	51	.3059													54	–	.1123	-1
	54	.2028													60	–	.1152	-1
	60	.1613													49	–	.1174	-1
	154	.4822																
		158	159												126	–	.0400	-1
60	63	.1683	.0496						.1045 (.5857)	4.08	2.313 (56.085)	.951	20 (20)	Repetitive of Complex 42	64	–	.0561	-1
	64	.2495	.0767												132	–	.0687	-1
	77	.1661	.1292												129	–	.0771	-1
	98	.0604	.1608												–	159	.0855	-1
	102	.2035*	.1351												133	–	.0935	-1
	126	.2762	.0845												130	–	.1000	-1
	129	.1948	.1544												77	–	.1036	-1

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers								E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industrie in the maximisation[c] of E: Sup	Rec	E	±I
		158	159																
60	130	.0129	.3289													98	–	.1041	-I
(contd)	132	.2329	.1027													63	–	.1045	-I
	133	.0180	.3293																
		61																	
61	44	.2074								.1174	2.75	1.546	.636	8	Repetitive of Complex 15	154	–	.0571	-I
	46	.3851								(.4145)		(56.085)		(8)		46	–	.0823	-I
	47	.2134														51	–	.0983	-I
	49	.1553														47	–	.1060	-I
	~~51~~	~~.3059~~														44	–	.1123	-I
	54	.2028*														60	–	.1152	-I
	60	.1613														49	–	.1174	-I
	154	.4822																	
		89	96	97	98	99	100	104	112										
62	86	.3021	.0756	.2157	.0715	.2006*	.1451	.0800	.0915	.0657	1.54	2.536	1.042	8	Repetitive of Complex 40	–	89	.0419	-I
										(.5350)		(56.085)		(8)		–	97	.0553	-I
																–	100	.0617	-I
																–	112	.0637	-I
																–	104	.0647	-I
																–	96	.0653	-I
																–	98	.0657	-I

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (bij's): Receivers		E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[@] of E: Sup	Rec	E	±1
		57	61										
63	44	.1172	.2074	.0908 (.9734)	2.84	1.436 (56.238)	.590	6 (14)	Overlapping on Complex 15	44	-	.0261	-1
	46	.0001	.3851							-	61	.0418	-1
	47	.0037	.2134							154	-	.0667	-1
	51	.0003	.3059							46	-	.0807	-1
	54	-	.2028							51	-	.0879	-1
	58	.1960 *	.0643							47	-	.0898	-1
	154	-	.4822							54	-	.0908	-1
		158	159										
64	~~63~~	.1683	.0496	.1045 (.5857)	4.08	2.313 (56.238)	.951	20 (20)	Repetitive of Complex 42	126	-	.0393	-1
	64	.2495	.0767							64	-	.0554	-1
	77	.1661	.1292							132	-	.0681	-1
	98	.0604	.1608							102	-	.0771	-1
	102	.2035	.1351							-	159	.0855	-1
	126	.2762	.0845							133	-	.0935	-1
	129	.1948*	.1544							130	-	.1000	-1
	130	.0129	.3289							77	-	.1036	-1
	132	.2329	.1027							98	-	.1041	-1
	133	.0180	.3293							63	-	.1045	-1
		60	61										
65	44	.1055	.2074	.1001 (.8259)	3.39	1.673 (56.606)	.688	7 (16)	Overlapping on Complex 15	47	-	.0295	-1
	45	.1931*	.0131							-	61	.0414	-1
	46	.0321	.3851							154	-	.0664	-1
	47	.1604	.2134							46	-	.0822	-1
	49	.0747	.1553							51	-	.0906	-1

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (bij's): Receivers						E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
		60	61														
65 (contd)	51	.0270	.3059											44	–	.0966	-1
	54	.0440	.2028											54	–	.0988	-1
	154	.–	.4822											49	–	.1001	-1
		16	17	18	23	29	35										
66	1	.3824	.3314	.3159	.1755*	.3720	.4057	.1239 (.2288)	2.58	7.194 (56.606)	2.956	6 (6)	Repetitive of Complex 18	–	35	.0484	-1
														–	16	.0741	-1
														–	29	.0954	-1
														–	17	.1111	-1
														–	18	.1239	-1
		63	73	74	76												
67	2	.1754*	.3263	–	–			.1166 (1.1298	3.34	10.793 (56.869)	4.436	9 (12)	Nested on Complex 35	–	73	.0418	-1
	72	–	.5871	.3429	.5081									72	–	.0778	-1
	73	.0003	–	.6248	–									–	76	.0998	-1
														–	74	.1078	-1
														73	–	.1166	-1
		1	26														
68	13	.1408	–					.0636 (1.0812)	1.66	2.031 (57.176)	.835	4 (10)	Nested on Complex 17	–	25	.0183	-1
	22	.4203	.0033											78	–	.0222	-1
	23	.0425	.1709*											–	30	.0249	-1
	50	.2749	.0004											29	–	.0270	-1
	140	.2193	.0001											–	22	.0369	-1
														–	144	.0383	-1
														78	–	.0389	1
														–	1	.0401	-1

Table 2 (cont'd)

Complex No.	Inter-industrial Linkages (bij's) Suppliers	Receivers 158	Receivers 159	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
68 (cont'd)										22	-	.0467	-1
										-	25	.0499	1
										-	144	.0516	1
										50	-	.0543	-1
										-	30	.0577	1
										140	-	.0596	-1
										-	22	.0597	1
										29	-	.0629	1
										13	-	.0636	-1
69	63	.1683*	.0496	.1045 (.5857)	4.08	2.313 (57.176)	.951	20 (20)	Repetitive of Complex 42	126	-	.0370	-1
	64	.2495	.0767							64	-	.0534	-1
	77	.1661	.1292							132	-	.0662	-1
	98	.0604	.1608							102	-	.0754	-1
	102	.2035	.1351							129	-	.0828	-1
	126	.2762	.0845							77	-	.0877	-1
	129	.1948	.1544							-	159	.0927	-1
	130	.0129	.3289							133	-	.0989	-1
	132	.2329	.1027							130	-	.1040	-1
	133	.0180	.3293							98	-	.1045	-1

Table 2. (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (bij's) Receivers		E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation of E: Sup	Rec	E	±1
		49	61										
70	44	.1675*	.2074	.0914 (.9386)	2.62	1.311 (57.203)	.539	6 (12)	Nested on Complex 15	-	61	.0312	-1
	46	.0011	.3851							154	-	.0612	-1
	47	.0414	.2134							46	-	.0777	-1
	51	-	.3059							51	-	.0861	-1
	54	.0041	.2028							47	-	.0902	-1
	154	-	.4822							54	-	.0914	-1
		158	159										
71	63	.1683	.0496	.1045 (.5857)	4.08	2.313 (57.203)	.951	20 (20)	Repetitive of Complex 42	126	-	.0369	-1
	64	.2495	.0767							64	-	.0532	-1
	77	.1661*	.1292							132	-	.0661	-1
	98	.0604	.1608							102	-	.0752	-1
	102	.2035	.1351							-	159	.0828	-1
	126	.2762	.0845							129	-	.0912	-1
	129	.1948	.1544							133	-	.0980	-1
	130	.0129	.3289							130	-	.1036	-1
	132	.2329	.1027							98	-	.1041	-1
	133	.0180	.3293							63	-	.1045	-1
		61											
72	44	.2074		.1174 (.4145)	2.75	1.546 (57.203)	.636	8 (8)	Repetitive of Complex 15	154	-	.0536	-1
	46	.3851								46	-	.0791	-1
	47	.2134								51	-	.0953	-1
	49	.1553								47	-	.1032	-1
	51	.3059								44	-	.1097	-1
	54	.2028								54	-	.1152	-1

Complex No.	Suppliers	Inter-industrial Linkages (bij's) Receivers		E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[c] of E: Sup	Rec	E	±1
		61											
72 (contd)	60	.1613*								49	-	.1174	-1
	154	.4822											
		85	159										
73	82	.4006	-	.1256 (.9925)	3.60	3.330 (57.206)	1.369	11 (12)	Overlapping on Complex 27	133	-	.0409	-1
	84	.6881	-							130	-	.0630	-1
	87	.5334	-							-	85	.0714	-1
	123	.0018	.1610*							84	-	.1017	-1
	130	.3208	.3289							87	-	.1182	-1
	133	.0003	.3293							82	-	.1256	-1
		85	159										
74	82	.4006	-	.1256 (.9926)	3.60	3.307 (57.209)	1.359	11 (12)	Overlapping on Complex 27	133	-	.0408	-1
	84	.6881	-							130	-	.0630	-1
	87	.5334	-							-	85	.0714	-1
	98	.0018	.1608*							84	-	.1017	-1
	130	.3208	.3289							87	-	.1182	-1
	133	.0003	.3293							82	-	.1256	-1
		60	61										
75	44	.1055	.2074	.1001 (.8259)	3.39	1.673 (57.209)	.688	16 (16)	Repetitive of Complex 65	-	61	.0311	-1
	45	.1931	.0131							154	-	.0611	-1
	46	.0321	.3851							46	-	.0796	-1
	47	.1604*	.2134							51	-	.0892	-1
	49	.0747	.1553							44	-	.0959	-1
	51	.0270	.3059							54	-	.0984	-1

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industri in the maximisation[5] of E Sup	Rec	E	±
		60	61											
75 (cont'd)											49	-	.0998	-
	54	.0440	.2028								45	-	.1001	-
	154	-	.4822											
		85	159											
76	82	.4006	-		.1255 (.9941)	3.59	3.197 (57.209)	1.314	11 (12)	Overlapping on Complex 27	133	-	.0407	-
	84	.6881	-								130	-	.0629	-
	87	.5334	-								-	85	.0712	-
	96	.0008	.1590*								84	-	.1015	-
	130	.3208	.3289								87	-	.1180	-
	133	.0003	.3293								82	-	.1255	-
		75	78	80										
77	74	.2754	.2378	.1576*	.0675 (.7259)	1.40	1.820 (57.209)	.748	6 (6)	Repetitive of Complex 26	81	-	.0441	-
	81	-	.0373	.3713							-	75	.0575	-
											-	78	.0675	-
		61												
78	44	.2074			.1174 (.4145)	2.75	1.546 (57.209)	.636	8 (8)	Repetitive of Complex 15	154	-	.0531	-
	46	.3851									46	-	.0787	-
	47	.2134									51	-	.0949	-
	49	.1553*									47	-	.1028	-
	51	.3059									44	-	.1093	-
	54	.2028									54	-	.1148	-
	60	.1613									60	-	.1174	-
	154	.4822												

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers		E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation° of E			
		56	61							Sup	Rec	E	±1
79	44	.1550*	.2074	.0897	2.57	1.316	.541	6	Overlapping on Complex 15	–	61	.0302	-1
	46	.0019	.3851	(.9682)		(57.242)		(12)		154	–	.0603	-1
	47	.0157	.2134							46	–	.0770	-1
	51	.0009	.3059							51	–	.0855	-1
	54	.0026	.2028							47	–	.0884	-1
	154	–	.4822							54	–	.0897	-1
		50	61										
80	44	.0051	.2074	.0893	2.79	1.336	.549	7	Overlapping on Complex 15	–	61	.0307	-1
	46	.0005	.3851	(.9958)		(57.273)		(14)		154	–	.0607	-1
	47	.1549*	.2134							46	–	.0773	-1
	49	.0296	.1553							51	–	.0857	-1
	51	–	.3059							44	–	.0877	-1
	54	.0004	.2028							54	–	.0890	-1
	154	–	.4822							49	–	.0893	-1
		85	159										
81	82	.4006	–	.1256	3.60	3.135	1.288	11	Overlapping on Complex 27	133	–	.0403	-1
	84	.6821	–	(.9911)		(57.277)		(12)		130	–	.0625	-1
	87	.5334	–							–	85	.0714	-1
	129	.0081	.1544*							84	–	.1017	-1
	130	.3208	.3289							87	–	.1182	-1
	133	.0003	.3293							82	–	.1256	-1

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers						E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation of E: Sup	Rec	E	±1
		59	61														
82	44	.0249	.2074					.0936 (.9089)	2.92	1.416 (57.389)	.582	7 (14)	Overlapping on Complex 15	–	61	.0306	-1
	46	.0088	.3851											154	–	.0606	-1
	47	.1533*	.2134											46	–	.0777	-1
	49	.0370	.1553											51	–	.0864	-1
	51	.0068	.3059											54	–	.0910	-1
	54	.0627	.2028											44	–	.0933	-1
	154	–	.4822											49	–	.0936	-1
		85	159											133	–	.0400	-1
83	82	.4006	–					.1253 (.9961)	3.59	3.501 (57.397)	1.439	11 (12)	Overlapping on Complex 27	130	–	.0622	-1
	84	.6881	–											–	85	.0709	-1
	87	.5334	–											84	–	.1012	-1
	97	.0035	.1510*											87	–	.1178	-1
	130	.3208	.3289											82	–	.1253	-1
	133	.0003	.3293														
		16	17	18	19	29	35							29	–	.0144	-1
84	1	.3824	.3314	.3159	.0069	.3720	.4057	.0892 (1.0584)	2.55	6.964 (57.501)	2.862	5 (12)	Overlapping on Complex 18	–	22	.0304	-1
	18	.0008	.0006	–	.1462*	.0002	–							1	–	.0342	-1
														–	16	.0536	-1
														–	35	.0647	-1
														–	29	.0718	-1
														–	17	.0760	-1
														29	–	.0803	1
														–	18	.0868	-1
														–	22	.0892	1

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers								E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
		89	96	97	98	99	100	104	112							Sup	Rec	E	±1
85	86	.3021	.0756	.2157	.0715	.2006	.1451*	.0800	.0915	.0657 (.5350)	1.54	2.536 (57.501)	1.042	8 (8)	Repetitive of Complex 40	-	89	.0373	-1
																-	97	.0510	-1
																-	99	.0617	-1
																-	112	.0637	-1
																-	104	.0647	-1
																-	96	.0553	-1
																-	98	.0657	-1
		1																	
86	13	.1402*								.0754 (.3872)	1.37	1.725 (57.501)	.709	4 (4)	Repetitive of Complex 17	22	-	.0468	-1
	22	.4203														50	-	.0643	-1
	50	.2749														140	-	.0754	-1
	140	.2193																	
		159	162																
87	96	.1590	,0301							.0753 (.8060)	2.74	2.592 (58.419)	1.065	8 (18)	Overlapping on Complex 52	128	-	.0228	-1
	97	.1510	.0764													-	159	.0304	-1
	98	.1608	.0781													133	-	.0472	-1
	122	.0350	.1407*													130	-	.0603	-1
	123	.1610	.0174													98	-	.0662	-1
	128	.1165	.1335													97	-	.0705	-1
	129	.1544	.0348													129	-	.0725	-1
	130	.3289	.0003													96	-	.0742	-1
	133	.3293	.0005													123	-	.0753	-1

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (bij's) Receivers		E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation§ of E: Sup	Rec	E	±1
		84	85										
88	6	.1382*	.0066	.1314 (.9598)	3.76	4.008 (58.635)	1.647	10 (12)	Nested on Complex 28	82	–	.0448	-1
	82	.3999	.4006							–	88	.0746	-1
	83	.3687	.0230							–	85	.0907	-1
	84	–	.6881							84	–	.1126	-1
	87	–	.5334							87	–	.1215	-1
	130	.0106	.3208							83	–	.1226	-1
										–	88	.1279	1
										130	–	.1314	-1
		1	40										
89	13	.1408	–	.0598 (1.1696)	1.56	1.814 (58.725)	.746	4 (10)	Nested on Complex 17	147	–	.0152	-1
	16	.0024	.1380*							–	1	.0168	-1
	22	.4203	.0004							22	–	.0410	-1
	50	.2749	–							50	–	.0517	-1
	140	.2193	.0007							140	–	.0576	-1
										13	–	.0587	-1
										147	–	.0598	1
		85	159										
90	82	.4006	–	.1244 (1.0064)	3.56	3.148 (58.725)	1.294	11 (12)	Overlapping on Complex 27 and Complex 42	133	–	.0387	-1
	84	.6881	–							130	–	.0610	-1
	87	.5334	–							–	85	.0697	-1
	102	.0002	.1351*							84	–	.1001	-1
	130	.3208	.3289							87	–	.1168	-1
	133	.0003	.3293							82	–	.1244	-1

Table 2 (cont'd)

plex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers				E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation$^{\sigma}$ of E			
		73	74	76	141							Sup	Rec	E	±1
91	72	.5871	.3429	.5081	-	.1032	2.96	9.364	3.848	7	Overlapping on Complex 7 and Complex 58	-	143	.0211	-1
	73	-	.6248	-	.0197	(1.2776)		(58.965)		(12)		-	38	.0280	-1
	146	.0481	.0068	-	.1337*							-	140	.0336	-1
												-	147	.0384	-1
												-	39	.0408	-1
												-	47	.0424	-1
												-	144	.0431	-1
												-	73	.0433	-1
												72	-	.0504	-1
												-	76	.0639	-1
												-	74	.0709	-1
												-	144	.0738	1
												-	47	.0767	1
												-	39	.0796	1
												-	147	.0818	1
												-	140	.0844	1
												73	-	.0893	-1
												-	38	.0956	1
												-	143	.1032	1
		159	162												
92	96	.1590	.0301			.0753	2.74	2.592	1.065	18	Repetitive of Complex 87	122	-	.0228	-1
	97	.1510	.0764			(.8060)		(58.965)		(18)		-	159	.0304	-1
	98	.1608	.0781									133	-	.0472	-1
	122	.0350	.1407									130	-	.0603	-1
												98	-	.0662	-1

Table 2 (cont'd)

Complex No.	Inter-industrial Linkages (bij's) Suppliers	Receivers		E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
		159	162							Sup	Rec	E	±1
92 (contd)	123	.1610	.0174							97	-	.0705	-1
	128	.1165	.1335*							129	-	.0725	-1
	129	.1544	.0348							96	-	.0742	-1
	130	.3289	.0003							123	-	.0753	-1
	133	.3293	.0005										
		58	61										
93										-	61	.0279	-1
	44	.0674	.2074	.0983	3.07	1.494	.614	7	Overlapping on Complex 15	154	-	.0584	-1
	46	.0325	.3851	(.8155)		(59.155)		(14)		46	-	.0772	-1
	47	.0641	.2134							51	-	.0886	-1
	49	.0550	.1553							47	-	.0937	-1
	51	.0546	.3059							44	-	.0976	-1
	54	.1326*	.2028							49	-	.0983	-1
	154	-	.4822										
		85	159										
94				.1243	3.56	3.098	1.273	10	Overlapping on Complex 90	133	-	.0383	-1
	82	.4006	-	(1.0070)		(59.213)		(12)		130	-	.0607	-1
	84	.6881	-							-	85	.0695	-1
	87	.5334	-							84	-	.1000	-1
	107	.0025	.1307*							87	-	.1167	-1
	130	.3208	.3289							82	-	.1243	-1
	133	.0003	.3293										

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation$^{\delta}$ of E			
											Sup	Rec	E	±1
		85	159											
95	77	.0002	.1292*		.1241 (1.0096)	3.55	3.094 (59.213)	1.272	11 (12)	Overlapping on Complex 33 and Complex 42	133	-	.0382	-1
	82	.4006	-								130	-	.0606	-1
	84	.6881	-								-	85	.0693	-1
	87	.5334	-								84	-	.0998	-1
	130	.3208	.3289								87	-	.1165	-1
	133	.0003	.3293								82	-	.1241	-1
		53	61											
96	44	.0591	.2074		.0928 (.9183)	2.90	1.430 (59.338)	.588	7 (14)	Overlapping on Complex 15	-	61	.0285	-1
	46	.0155	.3851								154	-	.0589	-1
	47	.1287*	.2134								46	-	.0765	-1
	49	.0676	.1553								51	-	.0851	-1
	51	.0015	.3059								44	-	.0899	-1
	54	.0027	.2028								49	-	.0919	-1
	154	.-	.4822								54	-	.0928	-1
		127	128	131										
97	14	.0525	.1274*	.1085	.0490 (.9152	1.02	.478 (59.338)	.197	6 (6)	Repetitive of Complex 23	124	-	.0423	-1
	124	.1139	.3804	.0017							-	127	.0482	-1
											-	131	.0490	-1
		38	61											
98	44	.1273*	.2074		.0883 (.9871	2.53	1.449 (59.503)	.595	6 (12)	Overlapping on Complex 16	-	61	.0279	-1
	46	.0001	.3851								154	-	.0583	-1
	47	.0178	.2134								46	-	.0751	-1
	51	.0001	.3059								51	-	.0838	-1

Table 2 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (bij's): Receivers 38	61	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
98	54	-	.2028							47	-	.0870	-1
(contd)	154	.0001	.4822							54	-	.0883	-1
		85	92							4	-	.0632	-1
99	4	.0004	.6327	.1373	3.57	5.710	2.347	10	Repetitive of Complex 6	-	159	.0777	-1
	82	.4006	-	(.9534)		(59.503)		(10)		133	-	.0886	-1
	84	.6881	-							-	85	.0915	-1
	87	.5334	.0440							84	-	.1103	-1
	130	.3208	.1260*							87	-	.1202	-1
										82	-	.1216	-1
										-	159	.1248	1
										133	-	.1373	1
		44	61							-	61	.0274	-1
100	44	-	.2074	.0911	2.61	1.408	.579	6	Overlapping on Complex 16	154	-	.0579	-1
	46	.0022	.3851	(.9315)		(59.628)		(12)		46	-	.0749	-1
	47	.0752	.2134							51	-	.0838	-1
	51	.0051	.3059							47	-	.0899	-1
	54	.1255*	.2028							44	-	.0911	-1
	154	-	.4822										

TABLE 3

Characterization of Industrial Complexes from I-O Table, U.S.A., 1963.

(k = 10)

Complex No.	Inter-industrial Linkages (b_{ij}'s): Suppliers	Receivers	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industrie[s] in the maximisation[θ] of E[…]: Sup	Rec	E	±1[…]
		31										
1	8	.6247 *	.0568 (.0000)	2.39	4.615 (4.615)	1.558	0 (1)	Independent	–	–	–	–
		37										
2	5	.4324*	.0443 (.6284)	2.03	.770 (5.385)	.260	0 (2)	Independent	7	–	.0443	–1[…]
	7	.0987										
		1 14										
3	1	– .4153 *	.0749	4.58	14.999	5.065	0	Independent	39	–	.0626	–1[…]

* Starting element

** This column is intended to describe the relevance of the present complex to the complexes obtained previously i.e. whether the present complex is independent of the earlier ones or whether it resembles them by characteristics like 'overlapping', 'nested' or 'repetitive' types.

θ Starting element characterized by an asterik is not shown here since the element has to be retained anyway by the method we have followed.

N.B. For the notation See Appendix 2.

Table 3 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers				E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[@] of E			
		1	14									Sup	Rec	E	±1
3 (contd)	2	.2928	.1528			(.8045)		(20.384)		(6)		2	–	.0696	-1
	39	.0018	.3365									–	1	.0749	-1
		28	34												
4	33	.0620	.4024*			.0387 (.7331)	1.77	.334 (20.718)	.113	0 (2)	Independent	–	28	.0387	-1
		11													
5	9	.1217				.0830 (.4108)	4.75	8.054 (28.772)	2.719	0 (5)	Independent	36	–	.0615	-1
	20	.1939										20	–	.0717	-1
	36	.3488										55	–	.0802	-1
	40	.3893*										9	–	.0830	-1
	55	.1908													
		16	17	27	32										
6	10	–	–	.3516*	–	.0482 (1.1053)	3.32	2.000 (30.772)	.675	0 (8)	Independent	31	–	.0339	-1
	28	.1276	.1198	.0375	.2316							28	–	.0342	-1
												–	32	.0424	-1
												31	–	.0443	1
												–	16	.0468	-1
												–	17	.0482	-1
		11													
7	9	.1217				.0830 (.4108)	4.75	8.054 (30.772)	2.719	5 (5)	Repetitive of Complex 5	40	–	.0615	-1
	20	.1939										20	–	.0717	-1
	36	.3488*										55	–	.0802	-1
												9	–	.0830	-1

Inter-industrial Linkages (bij's)

Complex No.	Suppliers	Receivers					E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation^{0} of E			
		11											Sup	Rec	E	±1
7 (contd)	40	.3893														
	55	.1908														
		1	14													
8	1	-	.4153				.0749 (.8045)	4.58	14.999 (30.772)	5.065	6 (6)	Repetitive of Complex 3	1	-	.0626	-1
	2	.2928	.1528										2	-	.0696	-1
	39	.0018	.3365*										-	1	.0749	-1
		27	38													
9	6	.0305	.3245*				.0505 (.9173)	2.70	.680 (31.231)	.230	1 (4)	Overlapping on Complex 6	-	27	.0296	-1
	10	.3516	-										10	-	.0505	-1
		16	17	18	19	32										
10	16	-	.1130	.3231*	.2435	.0160	.0609 (.8761)	4.66	5.078 (34.693)	1.715	3 (10)	Overlapping on Complex 6	-	19	.0472	-1
	28	.1276	.1198	.0372	.0066	.2316							-	17	.0523	-1
													28	-	.0527	-1
													-	32	.0606	-1
													-	15	.0609	-1
		1	2	14												
11	1	-	.0674	.4153			.0782 (1.0484)	6.57	16.565 (36.259)	5.593	6 (12)	Nested on Complex 3	-	1	.0375	-1
	2	.2928	-	.1528									2	-	.0531	-1
	4	.1339	.3164*	-									-	4	.0563	-1
	39	.0018	.0029	.3365									-	14	[illegible]	-1
													1	-	.0728	-1
													39	-	.0747	1
													-	4	.0782	1

Table 3 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
		1	14	20										
12	1	–	.4153	–	.0729	6.13	15.653	5.285	6	Nested on Complex 3	–	14	.0328	-1
	2	.2928	.1528	.0111	(1.1456)		(36.912)		(12)		1	–	.0578	-1
	3	–	.0889	.3046*							39	–	.0716	-1
	39	.0018	.3365	–							2	–	.0727	-1
											–	1	.0729	-1
		51	53	56										
13	57	.0569	.0306	.2969*	.0296	1.47	1.114	.376	0	Independent	–	51	.0295	-1
					(.9349)		(38.026)		(3)		–	53	.0296	-1
		1	4	14										
14	1	–	.0578	.4153	.0749	5.43	15.348	5.182	6	Nested on Complex 3	–	4	.0382	-1
	2	.2928*	.1653	.1528	(.9450)		(38.375)		(9)		–	14	.0470	-1
	39	.0018	–	.3365							1	–	.0677	-1
											39	–	.0749	-1
		1	14	25										
15	1	–	.4153	–	.0692	5.81	16.333	5.515	6	Nested on Complex 3	–	26	.0377	-1
	2	.2928	.1528	–	(1.1984)		(39.709)		(12)		–	14	.0379	-1
	24	.0007	.0405	.2711*							1	–	.0567	-1
	39	.0018	.3365	.0102							39	–	.0660	-1
											–	26	.0671	1
											2	–	.0681	-1
											–	1	.0692	-1

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers									
		16	17	18	19	32					
16	16	–	.1130	.3231	.2435*	.0160					
	28	.1276	.1198	.0372	.0066	.2316					
		11	36								
17	9	.1217	.2386*								
	20	.1939	.0029								
	36	.3488	–								
	40	.3893	.0017								
	55	.1908	.0030								
		16	17	18	19	32					
18	16	–	.1130	.3231	.2435	.0160					
	28	.1276	.1198	.0372	.0066	.2316*					
		11	39	40	41	42	44	45	49	59	61
19	37	.0594	.2232*	.1635	.1269	.1174	.0774	.0916	.0675	.1133	.0753

Complex No.	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
							Sup	Rec	E	±1
16	.0609 (.8761)	4.66	5.078 (39.709)	1.715	10 (10)	Repetitive of Complex 10	–	18	.0472	-1
							–	17	.0523	-1
							28	–	.0527	-1
							–	32	.0606	-1
							–	16	.0609	-1
17	.0745 (.9409)	5.70	8.456 (40.112)	2.855	5 (10)	Nested on Complex 5	–	11	.0300	-1
							40	–	.0537	-1
							36	–	.0688	-1
							20	–	.0721	-1
							55	–	.0745	-1
18	.0609 (.8761)	4.66	5.078 (40.112)	1.715	10 (10)	Repetitive of Complex 10	–	16	.0299	-1
							17	–	.0373	-1
							–	17	.0401	-1
							–	19	.0412	-1
							16	–	.0506	-1
							–	18	.0593	-1
							17	–	.0609	1
19	.0558 (.4297)	4.26	6.389 (46.501)	2.157	0 (10)	Independent	–	40	.0322	-1
							–	41	.0395	-1
							–	42	.0451	-1

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers					E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industri in the maximisation[σ] of			
													Sup	Rec	E	±
19 (contd)													-	59	.0496	-
													-	45	.0522	-
													-	44	.0537	-1
													-	61	.0549	-1
													-	49	.0556	-1
													-	11	.0558	-1
		13	39	40	59	60										
20	37	.0148	.2232	.1635	.1133	.0174	.0411	4.71	5.555	1.876	3	Overlapping on Complex 19	56	-	.0206	-1
	41	.0063	.0147	.0258	.1554	.0264	(1.2416)		(48.952)		(20)		-	60	.0210	-1
	50	.0039	-	.0022	.0974	.1495							50	-	.0280	-1
	60	.2134*	.0026	.0023	.0006	-							-	59	.0290	-1
													41	-	.0336	-1
													37	-	.0354	-1
													-	39	.0375	-1
													56	-	.0400	1
													-	40	.0411	-1
		11	12													
21	9	.1217	.0705				.0791	6.65	9.610	3.245	5	Nested on Complex 5	9	-	.0222	-1
	20	.1939	.0522				(.8068)		(50.509)		(12)		-	36	.0361	-1
	30	.0649	.1962*										-	11	.0433	-1
	36	.3488	.0318										40	-	.0594	-1
	40	.3893	.0460										36	-	.0686	-1
	55	.1908	.0343										-	36	.0705	1
													20	-	.0758	-1
													55	-	.0791	-1

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[c] of E: Sup	Rec	E	±1
		11	21											
22	20	.1939	.1943*		.0732 (.8806)	5.03	7.903 (50.583)	2.668	4 (8)	Overlapping on Complex 5	-	11	.0323	-1
	36	.3488	-								40	-	.0555	-1
	40	.3893	-								36	-	.0704	-1
	55	.1908	-								55	-	.0732	-1
		11												
23	9	.1217			.0830 (.4108)	4.75	8.054 (50.583)	2.719	5 (5)	Repetitive of Complex 5	40	-	.0486	-1
	20	.1939*									36	-	.0717	-1
	36	.3488									55	-	.0802	-1
	40	.3893									9	-	.0830	-1
	55	.1908												
		11												
24	9	.1217			.0830 (.4108)	4.75	8.054 (50.583)	2.719	5 (5)	Repetitive of Complex 5	40	-	.0483	-1
	20	.1939									36	-	.0715	-1
	36	.3488									20	-	.0802	-1
	40	.3893									9	-	.0830	-1
	55	.1908*												
		14	25	26										
25	1	.4153	-	-	.0660 (1.1182)	4.79	10.982 (51.820)	3.708	6 (9)	Overlapping on Complex 15	-	25	.0377	-1
	24	.0405	.2711	.1810*							-	14	.0379	-1
	39	.3365	.0102	.0002							1	-	.0567	-1
											39	-	.0660	-1

Table 3 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation§ of E: Sup	Rec	E	±1
		1 / 4 / 14										
26	1	– / .0578 / .4153	.0749 (.9450)	5.43	15.348 (51.820)	5.182	9 (9)	Repetitive of Complex 14	–	1	.0382	-1
	2	.2928 / .1653* / .1528							–	14	.0470	-1
	39	.0018 / – / .3365							1	–	.0677	-1
									39	–	.0749	-1
		11 / 39 / 40 / 41 / 42 / 44 / 45 / 49 / 59 / 61										
27	37	.0594 / .2232 / .1635* / .1269 / .1174 / .0774 / .0916 / .0675 / .1133 / .0753	.0558 (.4297)	4.26	6.389 (51.820)	2.157	10 (10)	Repetitive of Complex 19	–	39	.0322	-1
									–	41	.0395	-1
									–	42	.0451	-1
									–	59	.0496	-1
									–	45	.0522	-1
									–	44	.0537	-1
									–	61	.0549	-1
									–	49	.0556	-1
									–	11	.0558	-1
		39 / 40 / 41 / 42 / 44 / 45 / 59										
28	37	.2232 / .1635 / .1269 / .1174 / .0774 / .0916 / .1133	.0485 (.8058)	4.45	5.695 (51.950)	1.923	10 (14)	Overlapping on Complex 19 and Complex 20	37	–	.0224	-1
	41	.0147 / .0258 / – / .0221 / .0229 / .0105 / .1554*							–	39	.0362	-1
									–	40	.0435	-1
									–	42	.0464	-1
									–	41	.0481	-1
									–	45	.0484	-1
									–	44	.0485	-1

Table 3 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers					E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
		1	14													
29	1	-	.4153				.0749 (.8045)	4.58	14.999 (51.950)	5.065	6 (6)	Repetitive of Complex 3	1	-	.0473	-1
	2	.2928	.1528*										39	0	.0696	-1
	39	.0018	.3365										-	1	.0749	-1
		39	40	42	59	60										
30	37	.2232	.1635	.1174	.1133	.0174	.0451 (.9505)	4.31	5.353 (51.950)	1.807	14 (15)	Overlapping on Complex 20 and Complex 28	-	59	.0206	-1
	41	.0147	.0258	.0221	.1554	.0264							41	-	.0306	-1
	50	-	.0022	-	.0974	.1495*							37	-	.0350	-1
													-	39	.0420	-1
													-	40	.0449	-1
													-	42	.0451	-1
		14														
31	1	.4153					.0802 (.6057)	5.21	12.366 (52.891)	4.176	4 (7)	Overlapping on Complex 15	1	-	.0461	-1
	2	.1528											39	-	.0684	-1
	3	.0889											2	-	.0744	-1
	21	.1054											25	-	.0780	-1
	25	.1275											21	-	.0797	-1
	35	.1376*											3	-	.0802	-1
	39	.3365														
		1	2	14												
32	1	-	.0674	.4153			.0782 (1.0484)	6.57	16.565 (52.891)	5.593	12 (12)	Repetitive of Complex 11	-	2	.0375	-1
	2	.2928	-	.1528									2	-	.0531	-1
	4	.1339*	.3164	-									-	4	.0568	-1
	39	.0018	.0029	.3365									-	14	.0590	-1
													1	-	.0728	-1

Table 3 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers										E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
																		Sup	Rec	E	±1
32 (contd)																		39	–	.0747	-1
																		–	4	.0782	1
		16	17	18	19	32															
33	16	–	.1130	.3231	.2435	.0160						.0609 (.8761)	4.66	5.078) (52.891)	1.715	10 (10)	Repetitive of Complex 10	–	32	.0299	-1
	28	.1276*	.1198	.0372	.0066	.2316												17	–	.0373	-1
																		–	17	.0401	-1
																		–	19	.0412	-1
																		16	–	.0506	-1
																		–	18	.0593	-1
																		17	–	.0609	1
		14																			
34	1	.4153										.0802 (.6057)	5.21	12.366 (52.891)	4.176	7 (7)	Repetitive of Complex 31	1	–	.0452	-1
	2	.1528																39	–	.0676	-1
	3	.0889																2	–	.0737	-1
	21	.1054																35	–	.0780	-1
	25	.1275*																21	–	.0797	-1
	35	.1376																3	–	.0802	-1
	39	.3365																			
		11	39	40	41	42	44	45	49	59	61										
35	37	.0594	.2232	.1635	.1269*	.1174	.0774	.0916	.0675	.1133	.0753	.0558 (.4297)	4.26	6.389 (52.891)	2.157	10 (10)	Repetitive of Complex 19	–	39	.0292	-1
																		–	40	.0395	-1
																		–	42	.0451	-1

Table 3 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
											Sup	Rec	E	±1
35 (contd)											-	59	.0496	-1
											-	45	.0522	-1
											-	44	.0537	-1
											-	61	.0549	-1
											-	49	.0556	-1
											-	11	.0558	-1
		1	14	33										
36	1	-	.4153	.0305	.0657	5.52	16.810	5.676	6	Nested on Complex 3	-	1	.0180	-1
	2	.2928	.1528	-	(1.1870)		(54.702)		(12)		2	-	.0364	-1
	14	.0905	.-	.1257*							-	4	.0428	-1
	39	.0018	.3365	-							-	14	.0465	-1
											1	-	.0509	-1
											39	-	.0646	-1
											-	4	.0657	1
		11												
37	9	.1217*			.0830	4.75	8.054	2.719	5	Repetitive of Complex 5	40	-	.0426	-1
	20	.1939			(.4108)		(54.702)		(5)		36	-	.0661	-1
	36	.3488									20	-	.0753	-1
	40	.3893									55	-	.0830	-1
	55	.1908												

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers										E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[θ] of E			
		16	17	18	19	32												Sup	Rec	E	±1
38	16	–	.1130	.3231	.2435	.0160						.0609	4.66	5.078	1.715	10	Repetitive of Complex 10	–	32	.0293	-1
	28	.1276	.1198*	.0372	.0066	.2316						(.8761)		(54.702)		(10)		–	16	.0368	-1
																		17	–	.0401	-1
																		–	19	.0412	-1
																		16	–	.0506	-1
																		–	18	.0593	-1
																		17	–	.0609	1
		11	39	40	41	42	44	45	49	59	61										
39	37	.0594	.2232	.1635	.1269	.1174*	.0774	.0916	.0675	.1133	.0753	.0558	4.26	6.389	2.157	10	Repetitive of Complex 19	–	39	.0284	-1
												(.4297)		(54.702)		(10)		–	40	.0388	-1
																		–	41	.0451	-1
																		–	59	.0496	-1
																		–	45	.0522	-1
																		–	44	.0537	-1
																		–	61	.0549	-1
																		–	49	.0556	-1
																		–	11	.0558	-1
		1	2	14																	
40	1	–	.0674	.4153								.0777	7.42	16.652	5.623	13	Overlapping on Complex 11 and Complex 31	4	–	.0361	-1
	2	.2928	–	.1528								(1.0751)		(54.748)		(15)		–	1	.0405	-1
	4	.1339	.3164	–														2	–	.0538	-1
	21	–	.1173*	.1054														–	14	.0589	-1
	39	.0018	.0029	.3365														1	–	.0728	-1
																		39	–	.0777	-1

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation$^{\sigma}$ of E: Sup	Rec	E	±1
		1 14 30										
41	1	– .4153 –	.0631 (1.2527)	5.30	15.445 (55.193)	5.215	6 (12)	Nested on Complex 3	–	29	.0165	-1
	2	.2928 .1528 –							39	–	.0218	-1
	27	.0028 .0089 .1161*							–	14	.0407	-1
	39	.0018 .3365 .0603							1	–	.0561	-1
									–	29	.0586	1
									2	–	.0605	-1
									–	1	.0631	-1
		11 39 40 41 42 44 45 49 59 61										
42	37	.0594 .2232 .1635 .1269 .1174 .0774 .0916 .0675 .1133* .0753	.0558 (.4297)	4.26	6.389 (55.193)	2.157	10 (10)	Repetitive of Complex 19	–	39	.0280	-1
									–	40	.0385	-1
									–	41	.0448	-1
									–	42	.0496	-1
									–	45	.0522	-1
									–	44	.0537	-1
									–	61	.0549	-1
									–	49	.0556	-1
									–	11	.0558	-1
		16 17 18 19 32										
43	16	– .1130* .3231 .2435 .0160	.0609 (.8761)	4.66	5.078 (55.193)	1.715	10 (10)	Repetitive of Complex 10	–	18	.0363	-1
	28	.1276 .1198 .0372 .0066 .2316							–	19	.0523	-1
									28	–	.0527	-1
									–	32	.0606	-1
									–	16	.0609	-1

Complex No.	Suppliers	Inter-industrial Linkages (bij's) Receivers					E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[g] of E: Sup	Rec	E	±1
		14														
44	1	.4153					.0802 (.6057)	5.21	12.366 (55.193)	4.176	7 (7)	Repetitive of Complex 31	1	-	.0434	-1
	2	.1528											39	-	.0659	-1
	3	.0889											2	-	.0721	-1
	21	.1054*											35	-	.0765	-1
	25	.1275											25	-	.0797	-1
	35	.1376											3	-	.0802	-1
	39	.3365														
		39	40	42	59											
45	37	.2232	.1635	.1174	.1133		.0426 (.9419)	3.58	4.845 (55.399)	1.636	8 (12)	Overlapping on Complex 30	41	-	.0212	-1
	41	.0147	.0258	.0221	.1554								37	-	.0283	-1
	58	-	.0006	.0036	.0988*								-	39	.0378	-1
													-	40	.0419	-1
													-	42	.0426	-1
		37														
46	5	.4324					.0443 (.6284)	2.03	.770 (55.399)	.260	2 (2)	Repetitive of Complex 2	5	-	.0443	-1
	7	.0987*														
		39	40	42	59	60										
47	37	.2232	.1635	.1174	.1133	.0174	.0451 (.9505)	4.31	5.353 (55.399)	1.807	15 (15)	Repetitive of Complex 30	41	-	.0211	-1
	41	.0147	.0258	.0221	.1554	.0264							-	60	.0306	-1
	50	-	.0022	-	.0974*	.1495							37	-	.0350	-1
													-	39	.0420	-1
													-	40	.0449	-1
													-	42	.0451	-1

Table 3 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers										E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation° of E			
		11	21	22														Sup	Rec	E	±1
48	20	.1939	.1943	.0965*								.0644	4.67	7.644	2.581	6	Overlapping on Complex 22	–	21	.0242	-1
	36	.3488	–	–								(1.0729)		(55.668)		(9)		–	11	.0373	-1
	40	.3893	–	.0009														40	–	.0547	-1
																		36	–	.0644	-1
		1	4	14	15																
49	1	–	.0578	.4153	–							.0691	5.81	15.877	5.361	9	Nested on Complex 14	–	1	.0324	-1
	2	.2928	.1653	.1528	.0964*							(1.1202)		(56.202)		(12)		–	4	.0427	-1
	39	.0018	–	.3365	.0024													–	14	.0505	-1
																		1	–	.0656	-1
																		39	–	.0691	-1
		16	17	18	19	32															
50	16	–	.1130	.3231	.2435	.0160						.0593	5.67	5.680	1.918	10	Nested on Complex 10	16	–	.0280	-1
	17	.0893	–	.0095	.0926*	.0736						(.9690)		(56.803)		(15)		–	18	.0478	-1
	28	.1276	.1198	.0372	.0066	.2316												–	17	.0489	-1
																		28	–	.0498	-1
																		–	32	.0576	-1
																		–	16	.0593	-1
		11	39	40	41	42	44	45	49	59	61										
51	37	.0594	.2232	.1635	.1269	.1174	.0774	.0916*	.0675	.1133	.0753	.0558	4.26	6.389	2.157	10	Repetitive of Complex 19	–	39	.0262	-1
												(.4297)		(56.803)		(10)		–	40	.0368	-1
																		–	41	.0432	-1
																		–	42	.0482	-1

Table 3 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers					E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[@] of E Sup	Rec	E	±1
51 (contd)													-	59	.0522	-1
													-	44	.0537	-1
													-	61	.0549	-1
													-	49	.0556	-1
													-	11	.0558	-1
		1	14													
52	1	-	.4153				.0716	4.93	16.670	5.629	8	Nested on	2	-	.0319	-1
	2	.2928	.1528				(.9686)		(56.803)		(8)	Complex 36	-	4	.0399	-1
	14	.0905*	-										-	14	.0444	-1
	39	.0018	.3365										1	-	.0623	-1
													39	-	.0692	-1
													-	4	.0716	1
		16	17	18	19	32										
53	16	-	.1130	.3231	.2435	.0160	.0593	5.67	5.680	1.918	15	Repetitive of Complex 50	28	-	.0181	-1
	17	.0893*	-	.0095	.0926	.0736	(.9690)		(56.803)		(15)		-	32	.0373	-1
	28	.1276	.1198	.0372	.0066	.2316							-	17	.0401	-1
													-	19	.0412	-1
													16	-	.0506	-1
													-	18	.0593	-1
		1	14	20												
54	1	-	.4153	-			.0729	6.13	15.653	5.285	12	Repetitive	1	-	.0420	-1
	2	.2928	.1528	.0111			(1.1456)		(56.803)		(12)	of	39	-	.0647	-1
	3	-	.0889*	.3046								Complex 12	-	-	.0716	-1

Table 3 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (bij's) Receivers			E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
		1	14	20							Sup	Rec	E	±1
54 (contd)	39	.0018	.3365	-							2	-	.0727	-1
											-	1	.0729	-1
		14	29											
55	1	.4153	.0001		.0627 (1.1156)	5.27	13.018 (57.524)	4.396	6 (12)	Overlapping on Complex 31 and Complex 41	-	30	.0165	-1
	2	.1528	.0006								39	-	.0218	-1
	25	.1275	.0344								-	14	.0407	-1
	27	.0089	.0819*								1	-	.0561	-1
	35	.1376	.0368								35	-	.0564	-1
	39	.3365	.0468								-	30	.0591	1
											25	-	.0613	-1
											2		.0627	-1
		11												
56	9	.1217			.0829 (.5081)	5.07	8.174 (57.645)	2.760	5 (6)	Nested on Complex 5	40	-	.0392	-1
	20	.1939									36	-	.0630	-1
	36	.3488									20	-	.0724	-1
	40	.3893									55	-	.0803	-1
	46	.0814*									9	-	.0829	-1
	55	.1908												
		11	54											
57	20	.1939	.0017		.0629 (1.1138)	4.81	8.255 (58.071)	2.788	4 (10)	Overlapping on Complex 5	-	52	.0111	-1
	36	.3488	.0086								37	-	.0152	-1
	40	.3893	.0054								-	39	.0273	-1
	53	.0285	.0784*								-	40	.0342	-1

Complex No.	Inter-industrial Linkages (b_{ij}'s) Suppliers	Receivers 11	Receivers 54	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[δ] of E: Sup	Rec	E	±1
57 (contd)	55	.1908	.0124							–	41	.0372	-1
										–	42	.0394	-1
										–	59	.0410	-1
										–	45	.0418	-1
										–	61	.0423	-1
										–	49	.0425	-1
										–	11	.0426	-1
										40	–	.0429	-1
										–	49	.0435	1
										–	45	.0441	1
										–	52	.0447	1
										36	–	.0452	-1
										–	59	.0467	1
										–	61	.0483	1
										–	41	.0503	1
										–	42	.0527	1
										–	40	.0540	1
										55	–	.0556	-1
										–	39	.0583	1
										20	–	.0618	-1
										37	–	.0629	1

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers 11	39	40	41	42	44	45	49	59	61	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sup	Rec	E	±1
58	37	.0594	.2232	.1635	.1269	.1174	.0774*	.0916	.0675	.1133	.0753	.0558	4.26	6.389	2.157	10	Repetitive of Complex 19	-	39	.0251	-1
												(.4297)		(58.071)		(10)		-	40	.0357	-1
																		-	41	.0422	-1
																		-	42	.0472	-1
																		-	59	.0514	-1
																		-	45	.0537	-1
																		-	61	.0549	-1
																		-	49	.0556	-1
																		-	11	.0558	-1

Complex No.	Suppliers	Receivers 11	59	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sup	Rec	E	±1
59	20	.1939	.0016	.0684	6.27	12.284	4.148	7	Overlapping on Complex 5, Complex 19 and Complex 20	41	-	.0194	-1
	36	.3488	.0051	(1.0348)		(59.259)		(14)		37	-	.0266	-1
	37	.0594	.1133							-	39	.0366	-1
	40	.3893	.0016							-	40	.0427	-1
	41	.0122	.1554							-	42	.0433	-1
	42	.0618	.0772*							-	41	.0436	-1
	55	.1908	.0315							-	11	.0437	-1
										40	-	.0478	-1
										41	-	.0499	1
										36	-	.0519	-1
										-	42	.0544	1
										-	41	.0572	1
										-	40	.0583	1
										55	-	.0602	-1

Sequential Entry (-1) and Exit (+1) of Industries in the maximisation$^{\delta}$ of E

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation of E: Sup	Rec	E	±1
59 (contd)									-	39	.0639	1
									20	-	.0670	-1
									41	-	.0684	-1
		11 39 40 41 42 44 45 49 59 61										
60	37	.0594 .2232 .1635 .1269 .1174 .0774 .0916 .0675 .1133 .0753*	.0558 (.4297)	4.26	6.389 (59.259)	2.157	10 (10)	Repetitive of Complex 19	-	39	.0249	-1
									-	40	.0355	-1
									-	41	.0421	-1
									-	42	.0471	-1
									-	59	.0512	-1
									-	45	.0536	-1
									-	44	.0549	-1
									-	49	.0556	-1
									-	11	.0558	-1
		1 4 14 16										
61	1	- .0578 .4153 .0027	.0682 (1.1400)	5.73	15.995 (59.906)	5.401	9 (12)	Nested on Complex 14	-	1	.0306	-1
	2	.2928 .1653 .1528 .0749*							-	4	.0410	-1
	39	.0018 - .3365 -							-	14	.0490	-1
									1	-	.0645	-1
									39	-	.0682	-1

Table 3 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers 16	17	18	19	32	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sup	Rec	E	±1
62	16	-	.1130	.3231	.2435	.0160	.0593	5.67	5.680	1.918	15	Repetitive of Complex 50	28	-	.0254	-1
	17	.0893	-	.0095	.0926	.0736*	(.9690)		(59.906)		(15)		-	16	.0373	-1
	28	.1276	.1198	.0372	.0066	.2316							-	17	.0401	-1
													-	19	.0412	-1
													16	-	.0506	-1
													-	18	.0593	-1

Complex No.	Suppliers	Receivers 39	40	41	42	45	52	59	61	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sup	Rec	E	±1
63	37	.2232	.1635	.1269	.1174	.0916	.0356	.1133	.0753	.0399	3.97	5.198	1.755	7	Overlapping on Complex 19	53	-	.0105	-1
	54	-	.0029	.0010	.0050	-	.0712*	.0026	.0088	(1.0364)		(60.193)		(16)		-	54	.0146	-1
																37	-	.0177	-1
																-	39	.0267	-1
																-	40	.0314	-1
																-	42	.0328	-1
																-	41	.0338	-1
																53	-	.0359	1
																-	59	.0378	-1
																-	54	.0392	1
																-	45	.0398	-1
																-	61	.0399	-1

Complex No.	Suppliers	Receivers 11	12	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sup	Rec	E	±1
64	9	.1217	.0705*	.0791	6.65	9.610	3.245	12	Repetitive of Complex 21	-	36	.0258	-1
	20	.1939	.0522	(.8068)		(60.193)		(12)		30	-	.0361	-1
	30	.0649	.1962							-	11	.0433	-1
	36	.3488	.0318							40	-	.0594	-1

Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers										E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industrie[s] in the maximisation[σ] of E			
		11	12															Sup	Rec	E	±1
64 (contd)	40	.3893	.0460															36	–	.0686	-1
	55	.1908	.0343															–	36	.0705	1
																		20	–	.0758	-1
																		55	–	.0791	-1
		2	14																		
65	1	.0674	.4153									.0723 (1.0495)	6.08	13.510 (60.862)	4.562	11 (12)	Overlapping on Complex 11, Complex 40 and Complex 41	4	–	.0321	-1
	2	–	.1528															21	–	.0386	-1
	4	.3164	–															1	–	.0407	-1
	21	.1173	.1054															–	14	.0611	-1
	27	.0683*	.0089															39	–	.0719	-1
	39	.0029	.3365															2	–	.0723	-1
		11	21	24																	
66	20	.1939	.1943	.0680*								.0631 (1.1010)	4.58	7.774 (61.262)	2.625	6 (9)	Overlapping on Complex 22	–	21	.0219	-1
	36	.3488	–	.0044														–	11	.0351	-1
	40	.3893	–	–														40	–	.0528	-1
																		36	–	.0631	-1
		11	39	40	41	42	44	45	49	59	61										
67	37	.0594	.2232	.1635	.1269	.1174	.0774	.0916	.0675*	.1133	.0753	.0558 (.4297)	4.26	6.389 (61.262)	2.157	10 (10)	Repetitive of Complex 19	–	39	.0242	-1
																		–	40	.0349	-1
																		–	41	.0415	-1
																		–	42	.0466	-1
																		–	59	.0507	-1
																		–	45	.0531	-1

Table 3 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers					E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation of E			
													Sup	Rec	E	±1
67 (contd)													-	44	.0545	-1
													-	61	.0556	-1
													-	11	.0558	-1
		39	40	41	42	59										
68	19	-	.0002	-	.0002	.0675*	.0412	3.94	5.320	1.796	10	Overlapping on Complex 28	41	-	.0186	-1
	37	.2232	.1635	.1269	.1174	.1133	(1.0540)		(61.449)		(15)		37	-	.0259	-1
	41	.0147	.0258	-	.0221	.1554							-	39	.0359	-1
													-	40	.0402	-1
													-	42	.0411	-1
													-	41	.0412	-1
		2	14													
69	1	.0674*	.4153				.0756	5.20	9.860	3.329	8	Nested on Complex 40	-	14	.0402	-1
	4	.3164	-				(.8905)		(61.449)		(8)		39	-	.0587	-1
	21	.1173	.1054										4	-	.0712	-1
	39	.0029	.3365										21	-	.0756	-1
		11	42													
70	20	.1939	.0059				.0656	5.51	10.583	3.574	6	Overlapping on Complex 19 and Complex 59	37	-	.0154	-1
	36	.3488	.0078				(1.0702)		(62.479)		(12)		-	39	.0297	-1
	37	.0594	.1174										-	40	.0400	-1
	38	.0531	.0674*										-	41	.0448	-1
	40	.3893	.0076										-	59	.0473	-1
	55	.1908	.0013										-	11	.0481	-1
													40	-	.0522	-1

Table 3 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers									E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[c] of E			
																	Sup	Rec	E	±1
70 (contd)		— — —															36	–	.0538	-1
																	–	59	.0561	1
																	–	41	.0581	1
																	–	40	.0584	1
																	20	–	.0594	-1
																	–	39	.0625	1
																	55	–	.0656	-1
		39	40	41	42	44	45	46	59	61										
71	37	.2232	.1635	.1269	.1174	.0774	.0916	.0560	.1133	.0753	.0466 (.7974)	4.98	5.794 (63.161)	1.956	8 (18)	Overlapping on Complex 19	37	–	.0120	-1
	49	–	.0127	.0056	.0082	.0670*	.0580	.0403	.0321	.0352							–	39	.0263	-1
																	–	40	.0340	-1
																	–	45	.0385	-1
																	–	59	.0419	-1
																	–	41	.0442	-1
																	–	42	.0457	-1
																	–	61	.0464	-1
																	–	46	.0466	-1
		14	59																	
72	1	.4153	–								.0643 (1.0764)	4.91	12.558 (63.428)	4.240	5 (10)	Overlapping on Complex 20 and Complex 31	41	–	.0185	-1
	2	.1528	–														–	14	.0273	-1
	35	.1376	.0670*														1	–	.0498	-1
	39	.3365	–														39	–	.0630	-1
	41	.0216	.1554														2	–	.0643	-1

Table 3 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers					E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
		11	39	40	58								Sup	Rec	E	±1
73	36	.3488	.0013	.0023	.0041		.0536	5.33	9.193	3.104	6	Overlapping on	-	42	.0110	-1
	37	.0594	.2232	.1635	.0148		(1.4133)		(63.928)		(16)	Complex 5,	37	-	.0189	-1
	38	.0531	.0084	.0608	.0649*							Complex 19	-	39	.0310	-1
	40	.3893	.0008	-	-							and	-	40	.0400	-1
												Complex 70	-	41	.0443	-1
													-	59	.0466	-1
													-	11	.0474	-1
													40	-	.0497	-1
													36	-	.0504	-1
													-	59	.0520	1
													-	41	.0532	1
													-	42	.0536	1
		11														
74	9	.1217					.0818	5.00	8.198	2.768	6	Nested on	40	-	.0379	-1
	20	.1939					(.5307)		(63.928)		(6)	Complex 5	36	-	.0618	-1
	30	.0649*											20	-	.0712	-1
	36	.3488											55	-	.0792	-1
	40	.3893											9	-	.0918	-1
	55	.1908														
		16	17	29	30	32										
75	27	.0233	.0025	.0819	.1161	.0307	.0401	3.06	2.775)	.937	5	Overlapping on	-	32	.0247	-1
	28	.1276	.1198	.0036	.0643*	.2316	(.8451)		(64.398)		(10)	Complex 10	-	16	.0326	-1
													-	17	.0388	-1
													27	-	.0398	-1
													-	29	.0401	-1

Table 3 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s) Receivers		E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E			
										Sup	Rec	E	±1
		11											
76	9	.1217		.0817	4.99	8.244	2.784	5		40	–	.0377	-1
	20	.1939		(.5339)		(64.588)		(6)	Nested on Complex 5	36	–	.0616	-1
	36	.3488								20	–	.0710	-1
	40	.3893								55	–	.0790	-1
	52	.0627*								9	–	.0817	-1
	55	.1908											
		28	34										
77	33	.0620*	.4024	.0387 (.7331)	1.77	.334 (64.588)	.113	2 (2)	Repetitive of Complex 4	–	34	.0387	-1
		2	34										
78	4	.3164	–	.0526	3.61	1.042	.352	3	Overlapping on Complex 4 and Complex 40	33	–	.0387	-1
	21	.1173	.0401	(1.2309)		(64.803)		(8)		21	–	.0388	-1
	32	.0079	.0619*							–	2	.0393	-1
	33	–	.4024							4	–	.0526	-1
		11											
79	9	.1217		.0816	4.99	8.512	2.874	6	Repetitive of Complex 76	40	–	.0376	-1
	20	.1939		(.5351)		(64.803)		(6)		36	–	.0615	-1
	36	.3488								20	–	.0710	-1
	40	.3893								55	–	.0790	-1
	42	.0618*								9	–	.0816	-1
	55	.1908											

Table 3 (cont'd)

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s): Receivers						E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation$^{\sigma}$ of E			
		11	40											Sup	Rec	E	±1
80	20	.1939	.0022					.0665	5.59	10.761	3.634	10	Overlapping on Complex 70 and Complex 19	37	-	.0187	-1
	36	.3488	.0023					(1.0724)		(64.813)		(12)		-	39	.0326	-1
	37	.0594	.1635											-	42	.0400	-1
	38	.0531	.0608*											-	41	.0448	-1
	40	.3893	-											-	59	.0473	-1
	55	.1908	-											-	11	.0481	-1
														40	-	.0522	-1
														36	-	.0538	-1
														-	59	.0561	1
														-	41	.0581	1
														-	42	.0596	1
														20	-	.0603	-1
														-	39	.0637	1
														55	-	.0665	-1
		1	4	14	30												
81	1	-	.0578	.4153	-			.0674	5.66	15.418	5.206	12	Overlapping on Complex 14 and Complex 41	-	14	.0331	-1
	2	.2928	.1653	.1528	-			(1.1587)		(64.813)		(12)		1	-	.0580	-1
	39	.0018	-	.3365	.0603*									2	-	.0603	-1
														-	1	.0663	-1
														-	4	.0674	-1
		39	40	41	42	45	59										
82	37	.2232	.1635	.1269	.1174	.0916	.1133	.0435	3.66	5.034	1.700	6	Overlapping on Complex 19	41	-	.0179	-1
	47	.0009	.0052	.0101	.0174	.0289	.0595*	(.8559)		(65.225)		(12)		37	-	.0252	-1
														-	39	.0354	-1

Table 3 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers									E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[∂] of E			
																	Sup	Rec	E	±1
82 (contd)																	–	40	.0401	-1
																	–	42	.0417	-1
																	–	41	.0422	-1
																	–	45	.0424	-1
																	41	–	.0435	1
		11																		
83	9	.1217									.0815 (.5386)	4.98	9.053 (65.225)	3.057	6 (6)	Nested on Complex 5	40	–	.0374	-1
	20	.1939															36	–	.0613	-1
	36	.3488															20	–	.0708	-1
	37	.0594*															55	–	.0788	-1
	40	.3893															9	–	.0815	-1
	55	.1908																		
		39	40	41	42	44	45	46	59	61										
84	37	.2232	.1635	.1269	.1174	.0774	.0916	.0560	.1133	.0753	.0466 (.7974	4.98	5.794 (65.225)	1.956	18 (18)	Repetitive of Complex 71	37	–	.0125	-1
	49	–	.0127	.0056	.0082	.0670	.0580*	.0403	.0321	.0352							–	39	.0266	-1
																	–	40	.0343	-1
																	–	59	.0386	-1
																	–	44	.0419	-1
																	–	41	.0442	-1
																	–	42	.0457	-1
																	–	61	.0464	-1
																	–	46	.0466	-1

Table 3 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers					E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[c] of E			
		1	4	14									Sup	Rec	E	±1
85	1	-	.0578*	.4153			.0749	5.43	15.348	5.182	9	Repetitive of Complex 14	-	14	.0394	-1
	2	.2928	.1653	.1528			(.9450)		(65.225)		(9)		39	-	.0578	-1
	39	.0018	-	.3365									2	-	.0705	-1
													-	1	.0749	-1
		51	53	56												
86	57	.0569*	.0306	.2969			.0296	1.47	1.114	.376	3	Repetitive of Complex 13	-	56	.0295	-1
							(.9349)		(65.225)		(3)		-	53	.0296	-1
		39	40	41	42	59										
87	32	.0018	.0014	.0098	.0132	.0563*	.0418	3.99	5.650	1.908	10	Overlapping on Complex 28	41	-	.0176	-1
	37	.2232	.1635	.1269	.1174	.1133	(1.0184)		(65.743)		(15)		37	-	.0250	-1
	41	.0147	.0258	-	.0221	.1554							-	39	.0353	-1
													-	40	.0398	-1
													-	42	.0413	-1
													-	41	.0418	-1
		1	4	14	24											
88	1	-	.0578	.4153	-		.0631	6.26	16.109	5.439	10	Overlapping on Complex 15 and Complex 31	-	14	.0153	-1
	2	.2928	.1653	.1528	-		(1.2863)		(65.969)		(16)		1	-	.0428	-1
	25	.0002	.0333	.1275	.0562*								39	-	.0585	-1
	39	.0018	-	.3365	-								2	-	.0605	-1
													-	1	.0629	-1
													-	4	.0631	-1

Complex No.	Suppliers	Inter-industrial Linkages (b_{ij}'s): Receivers											E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[c] of E			
		11	39	40	41	42	44	45	46	49	59	61							Sup	Rec	E	±1
89	37	.0594	.2232	.1635	.1269	.1174	.0774	.0916	.0560*	.0675	.1133	.0753	.0558 (1.4545)	4.48	6.389 (65.969)	2.157	11 (11)	Repetitive of Complex 19	–	39	.0233	-1
																			–	40	.0341	-1
																			–	41	.0407	-1
																			–	42	.0458	-1
																			–	59	.0500	-1
																			–	45	.0525	-1
																			–	44	.0539	-1
																			–	61	.0550	-1
																			–	49	.0556	-1
																			–	11	.0558	-1
		16	27	32																		
90	10	–	.3516	–									.0441 (1.3031)	3.70	2.683 (66.487)	.906	8 (12)	Overlapping on Complex 9, Complex 10 and Complex 53	10	–	.0339	-1
	17	.0893	–	.0736															28	–	.0342	-1
	28	.1276	.0375	.2316															–	32	.0424	-1
	31	.0013	.0556*	.0015															–	16	.0425	-1
																			17	–	.0441	-1
		11	52																			
91	20	.1939	.0014										.0619 (1.1371)	4.73	8.173 (66.673)	2.760	5 (10)	Overlapping on Complex 57	–	54	.0111	-1
	36	.3488	.0046																37	–	.0152	-1
	40	.3893	.0213																–	39	.0273	-1
	53	.0285	.0550*																–	40	.0342	-1
	55	.1908	.0046																–	41	.0372	-1
																			–	42	.0394	-1
																			–	59	.0410	-1

Complex No.	Inter-industrial Linkages (b_{ij}'s) Suppliers	Receivers	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation$^{\sigma}$ of E: Sup	Rec	E	±1
91 (contd)									-	45	.0418	-1
									-	61	.0423	-1
									-	49	.0425	-1
									-	11	.0426	-1
									40	-	.0429	-1
									-	49	.0435	1
									-	45	.0441	1
									-	59	.0445	1
									36	-	.0450	-1
									-	61	.0463	1
									-	41	.0478	1
									-	54	.0496	1
									-	42	.0519	1
									-	40	.0531	1
									20	-	.0546	-1
									-	39	.0569	1
									55	-	.0606	-1
									37	-	.0619	1
		11 39 40 41 42 43 44 45 49 59 61										
92	37	.0594 .2232 .1635 .1269 .1174 .0538* .0774 .0916 .0675 .1133 .0753	.0557 (.4574)	4.47	6.500 (66.783)	2.195	10 (11)	Overlapping on Complex 19	-	39	.0231	-1
									-	40	.0339	-1
									-	41	.0405	-1
									-	42	.0457	-1
									-	59	.0499	-1
									-	45	.0523	-1

Complex No.	Inter-industrial Linkages (bij's): Suppliers	Receivers	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation[σ] of E: Sup	Rec	E	±1
92 (contd)		— — —							–	44	.0537	-1
									–	61	.0549	-1
									–	49	.0555	-1
									–	11	.0557	-1
93		11	.0811 (.5479)	4.96	8.638 (66.783)	2.917	6 (6)	Nested on Complex 5	40	–	.0369	-1
	9	.1217							36	–	.0609	-1
	20	.1939							20	–	.0704	-1
	36	.3488							55	–	.0784	-1
	38	.0531*							9	–	.0811	-1
	40	.3893										
	55	.1908										
94		11 12	.0791 (.8068)	6.65	9.610 (66.783)	3.245	12 (12)	Repetitive of Complex 21	30	–	.0207	-1
	9	.1217 .0705							–	11	.0362	-1
	20	.1939 .0522*							40	–	.0589	-1
	30	.0649 .1962							36	–	.0735	-1
	36	.3488 .0318							55	–	.0774	-1
	40	.3893 .0460							9	–	.0791	-1
	55	.1908 .0343										
95		11 39 40 41 42 44 45 48 49 59 61	.0556 (.4595)	4.46	6.500 (66.942)	2.195	10 (11)	Overlapping on Complex 19	–	39	.0230	-1
	37	.0594 .2232 .1635 .1269 .1174 .0774 .0916 .0522* .0675 .1133 .0753							–	40	.0338	-1
									–	41	.0404	-1
									–	42	.0455	-1

Table 3 (cont'd)

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers											E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**
95 (contd)	-																	
		17	18	19	32													
96	16	.1130	.3231	.2435	.0160								.0533	4.48	4.744	1.602	8	Overlapping on Complex 10
	19	.0276	.0521*	-	.0012								(1.0869)		(67.121)		(12)	
	28	.1198	.0372	.0066	.2316													
		11	39	40	41	42	44	45	47	49	59	61						
97	37	.0594	.2232	.1635	.1269	.1174	.0774	.0916	.0521*	.0675	.1133	.0753	.0556	4.46	6.598	2.228	10	Overlapping on Complex 19
													(.4597)		(67.329)		(11)	

Sequential Entry (-1) and Exit (+1) of Industrie[s] in the maximisation[σ] of E

Complex No.	Sup	Rec	E	±1
95 (contd)	-	59	.0498	-1
	-	45	.0522	-1
	-	44	.0536	-1
	-	61	.0548	-1
	-	49	.0554	-1
	-	11	.0556	-1
96	16	-	.0313	-1
	-	19	.0442	-1
	-	17	.0475	-1
	28	-	.0486	-1
	-	32	.0533	-1
97	-	39	.0229	-1
	-	40	.0338	-1
	-	41	.0404	-1
	-	42	.0455	-1
	-	59	.0498	-1
	-	45	.0522	-1
	-	44	.0536	-1
	-	61	.0548	-1
	-	49	.0554	-1
	-	11	.0556	-1

Inter-industrial Linkages (b_{ij}'s)

Complex No.	Suppliers	Receivers 39	40	41	42	44	45	59	61
98	37	.2232	.1635	.1269	.1174	.0774	.0916	.1133	.0753
	43	–	.0040	.0050	.0011	.0515*	.0401	.0387	.0401

Complex No.	Suppliers	Receivers 11	23	39	40	41	42	44	45	49	59	61
99	37	.0594	.0507*	.2232	.1635	.1269	.1174	.0774	.0916	.0675	.1133	.0753

Complex No.	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**
98	.0450 (.8474)	4.47	5.392 (67.611)	1.821	8 (16)	Overlapping on Complex 19
99	.0555 (.4615)	4.46	6.474 (67.696)	2.186	10 (11)	Overlapping on Complex 19

Sequential Entry (-1) and Exit (+1) of Industrie[s] in the maximisation[g] of E

Complex No.	Sup	Rec	E	±1
98	37	–	.0107	-1
	–	39	.0252	-1
	–	40	.0325	-1
	–	59	.0373	-1
	41	–	.0405	-1
	–	45	.0413	-1
	–	42	.0419	-1
	–	41	.0421	-1
	41	–	.0439	1
	–	61	.0450	-1
99	–	39	.0228	-1
	–	40	.0336	-1
	–	41	.0403	-1
	–	42	.0455	-1
	–	59	.0497	-1
	–	45	.0522	-1
	–	44	.0536	-1
	–	61	.0547	-1
	–	49	.0553	-1
	–	11	.0555	-1

Complex No.	Suppliers	Inter-industrial Linkages (bij's) Receivers 11	E (CV)	g	m_1 (m_2)	m_3	Intersecting Elements (Total elements)	Type of Intersection**	Sequential Entry (-1) and Exit (+1) of Industries in the maximisation§ of E: Sup	Rec	E	±1
100	9	.1217	.0809 (.5536)	4.94	8.140 (67.782)	2.749	5 (6)	Nested on Complex 5	40	–	.0365	-1
	20	.1939							36	–	.0606	-1
	23	.0492*							20	–	.0701	-1
	36	.3488							55	–	.0781	-1
	40	.3893							9	–	.0809	-1
	55	.1908										

APPENDIX 1 & 2

SEARCH ALGORITHM TO MAXIMIZE 'E' AND RELATED STATISTICAL INDICATORS

Search Algorithm[1]

Let S and R be the sets of all N industries ($N \leqslant P$) as suppliers and receivers respectively and let S* and R* be the sets of respective suppliers and receivers constituting any artificial initial complex, E_p, not maximizing E.

$$\text{Define} \qquad E_p = \frac{\sum_{i \varepsilon S^*} \sum_{j \varepsilon R^*} b_{ij}}{n_{S^*} \, n_{R^*} + k} \quad \ldots\ldots \text{(A.1)}$$

where n_{S^*}, n_{R^*} are the number of industries in sets S* and R*, and k is a positive integer.

Obviously in conformity with the eqn (4) in the text,

$$n = n_{S^*} \, n_{R^*} \quad \ldots\ldots \text{(A.2)}$$

Note that the numerator in (A.1) can start with only one element, say b_{ml} (which is presumably the highest in value of all b_{ij}'s) where m is the only one supplying industry and l is the only receiving industry with the result that n=1.

Now industries are added to (or dropped from) sets S* and R* of (A.1) in single steps as long as the objective function, E, can be increased. The move at each step is determined by

(1) A computer program with respect to the alogorithm is written in FORTRAN IV and is available on request.

the following:

(1) Evaluate the N quantities from the suppliers' side, E'_s, and the N quantities from the receivers' side, E'_r which are given by -

$$E'_s = \frac{E_p m \pm \sum_{j \varepsilon R^*} b_{sj}}{m \pm n_{R^*}} \quad \ldots\ldots (A.3)$$

$$E'_r = \frac{E_p m \pm {}_{i \varepsilon S^*} b_{ir}}{m \pm n_{S^*}} \quad \ldots\ldots (A.4)$$

where $m = n_{S^*} n_{R^*} + k$ ..... (A.5)

and $\pm$ = - if $s \varepsilon S^*$ (or $r \varepsilon R^*$)
= + if $s \not\varepsilon S^*$ (or $r \not\varepsilon R^*$)

(2) Let E' be the maximum among all the E'_s and E'_r (N of each).

If $E' \leqslant E_p$ the process is stopped: the complex is considered formed. If $E' > E_p$ the indicated move is taken yielding E' as the value of the objective function for the modified complex i.e. adding or dropping a supplier or receiver to the initial complex. The new E'_s and E'_r values are obtained and the process is repeated until the function, E, cannot be further increased.

Appendix 2

Statistical Indicators

Free Complexes:

The following indicators and symbols are used to highlight the quantitative findings in Tables 1, 2 and 3.

E_x = optimal average linkage value of complex x.

x = 1, 2, . . . , z.

= serial number of complexes as they arise in the process of extraction by the search procedure.

$$g_x = \left[\sum_{complex\ x} \sum b_{ij} \Big/ \sum_{i=1}^{N} \sum_{j=1}^{N} b_{ij} \right] \times 100$$ = percentage reduction by complex x.

$$h_x = \sum_{complex\ x} \sum b_{ij}$$ = sum of total linkages or coefficients of complex x.

$$CV_x = \sqrt{\sum_{complex} \sum \left(b_{ij}\right)^2 \Big/ \left(h_x\right)^2 - 1}$$

= coefficient of variation of complex x.

$$m_{1x} = \left[\sum_{complex\ x} \sum A_{ij} \Big/ \sum_{i=1}^{N} \sum_{j=1}^{N} A_{ij} \right] \times 100$$

= percentage reduction in dollar terms by complex x in relation to the total dollar transactions of the N x N matrix.

$$m_{2x} = \left[\sum_{x=1}^{x} A_x \Big/ \sum_{i=1}^{N} \sum_{j=1}^{N} A_{ij} \right] \times 100$$

= cumulative percentage reduction in dollar terms for all complexes preceding and upto xth complex with respect to the total dollar transactions of N x N matrix (here A_{ij}'s in each A_x are counted only once i.e. multiple counting of the same A_{ij} in various complex is avoided to adjust $\sum_{x=1}^{z} A_x = 1$).

$$m_{3x} = \sum_{\text{complex}} \sum_{x} A_{ij} \Big/ \sum_{j=1}^{N} V_j$$

= percentage reduction by complex x in respect of total gross outputs of N industries.

Appendix 3

CLASSIFICATION OF 165 INPUT-OUTPUT INDUSTRIES OF CANADA

Input-Output Industry No.	Input-Output Industry Title
1	Agriculture
2	Forestry
3	Fishing, Hunting & Trapping
4	Base Metal & other Metal Mines
5	Uranium Mines
6	Iron Mines
7	Gold Mines
8	Coal Mines
9	Petroleum & Gas Wells
10	Asbestos Mines
11	Gypsum Mines
12	Salt Mines
13	Other Non-Metal Mines
14	Quarries & Sand Pits
15	Services Incidental to Mining
16	Slaughtering & Meat Processors
17	Poultry Processors
18	Dairy Factories
19	Process Cheese Mfgrs.
20	Fish Products Industry
21	Fruit & Vegetable Canners
22	Feed Mfgrs.
23	Flour Mills
24	Breakfast Cereal Mfgrs.
25	Biscuit Mfgrs.
26	Bakeries
27	Confectionery Mfgrs.
28	Sugar Refineries

29	Vegetable Oil Mills
30	Miscellaneous Food Industries
31	Soft Drink Mfgrs.
32	Distilleries
33	Breweries
34	Wineries
35	Leaf Tobacco Processing
36	Tobacco Products Mfgrs.
37	Rubber Footwear Mfgrs.
38	Tire & Tube Mfgrs.
39	Other Rubber Industries
40	Leather Tanneries
41	Shoe Factories
42	Leather Glove Factories
43	Small Leather Goods Mfgrs.
44	Cotton Yarn & Cloth Mills
45	Wool Yarn Mills
46	Wool Cloth Mills
47	Synthetic Textile Mills
48	Fibre Preparing Mills
49	Thread Mills
50	Cordage & Twine Industry
51	Narrow Fabric Mills
52	Pressed & Punched Felt Mills
53	Carpet, Mat & Rug Industry
54	Textile Dyeing & Finishing
55	Linoleum & Coated Fabrics Inc.
56	Canvas Products Industry
57	Cotton & Jute Bag Industry
58	Miscellaneous Textile Inc.
59	Hosiery Mills
60	Other Knitting Mills
61	Clothing Industries

62	Sawmills
63	Veneer & Plywood Mills
64	Sash & Door & Planing Mills
65	Wooden Box Factories
66	Coffin & Casket Industry
67	Miscellaneous Wood Industries
68	Household Furniture Industry
69	Office Furniture Industry
70	Other Furniture Industries
71	Electric Lamp & Shade Industry
72	Pulp & Paper Dummy Ind.
73	Wood Pulp
74	Paper Producing
75	Paper Converting
76	Pulp & Paper Other Activities
77	Asphalt Roofing Mfgrs.
78	Paper Box & Bag Mfgrs.
79	Other Paper Converters
80	Printing & Publishing
81	Engraving, Stereotyping Ind.
82	Iron & Steel Dummy Inc.
83	Coke Ovens
84	Sinter Plant & Blast Furnaces
85	Steel Mills
86	Rolling Mills
87	Ferro Alloy Producers
88	Iron & Steel Other Activities
89	Steel Pipe & Tube Mills
90	Iron Foundries
91	Aluminum Smelting and Refining
92	Other Smelting and Refining
93	Aluminum Rolling & Extruding
94	Copper & Alloy Rolling

95	Metal Casting & Extruding NES
96	Boiler & Plate Works
97	Fabricated Struct. Metal Ind.
98	Ornamental & Arch. Metal Ind.
99	Metal Stamp. Press. & Coat. Ind.
100	Wire & Wire Products Mfgrs.
101	Hardware Tool & Cutlery Mfgrs.
102	Heating Equipment Mfgrs.
103	Machine Shops
104	Misc. Metal Fabricating Ind.
105	Agricultural Implement Ind.
106	Misc. Machinery & Equip. Mfgrs
107	Comm. Refrig & Air Cond. Mfgrs
108	Office & Store Machinery Mfgrs
109	Aircraft & Parts Mfgrs.
110	Motor Vehicle Mfgrs.
111	Truck Body & Trailer Mfgrs.
112	Motor Veh. Pts & Access. Mfgrs
113	Railroad Rolling Stock Inc.
114	Shipbuilding & Repair
115	Misc. Transp. Equip. Ind.
116	Small Electrical Appliances
117	Major Appliances Elect. & Non.
118	Radio & Television Receivers
119	Communications Equipment Mfgrs.
120	Mfgrs of Elect. Inc. Equip.
121	Battery Mfgrs.
122	Mfgrs of Electric Wire & Cable
123	Mfgrs of Misc. Elect. Products
124	Cement Mfgrs
125	Lime Mfgrs.
126	Gypsum Products Mfgrs.
127	Concrete Products Mfgrs.

128	Ready-Mix Concrete Mfgrs.
129	Clay Products Mfgrs.
130	Refractories Mfgrs.
131	Stone Products Mfgrs
132	Mineral Wool Mfgrs.
133	Asbestos Products Mfgrs.
134	Glass & Glass Products Mfgrs.
135	Abrasives Mfgrs.
136	Other Non-Metallic Prods. Ind.
137	Petroleum Refineries
138	Other Petrol & Coal Prod. Ind.
139	Explosives & Ammunition Mfgrs.
140	Mfgrs. of Mixed Fertilizers
141	Mfgrs. of Plast. & Synth. Res.
142	Mfgrs. of Pharm. & Medicines
143	Paint & Varnish Mfgrs.
144	Mfgrs. of Soap & Cleaning Comp
145	Mfgrs. of Toilet Preparations
146	Mfgrs. of Industrial Chemicals
147	Other Chemical Industries
148	Scient. & Prof. Equip. Mfgrs.
149	Jewelry & Silverware Mfgrs.
150	Broom Brush & Mop Industry
151	Venetian Blind Mfgrs.
152	Plastic Fabricators, Nes.
153	Sporting Goods & Toy Industry
154	Fur Dressing & Dying Industry
155	Signs & Displays Industry
156	Misc. Manufacturing Ind. Nes
157	Repair Construction
158	Residential Construction
159	Non-Residential Construction
160	Road Highway Airstrip Const.

161	Gas and Oil Facility Const.
162	Dams and Irrigation Projects
163	Railway Telephone Telegraph Con.
164	Other Engineering Construction
165	Construction other Activities.

CLASSIFICATION OF 64 INPUT-OUTPUT INDUSTRIES OF THE U.S.A.

Input-Output Industry No.	Input-Output Industry Title
1	Livestock & Livestock Products
2	Other Agricultural Products
3	Forestry & Fishery Products
4	Agricultural, Forestry & Fishery Services
5	Iron & Ferroalloy Ores Mining
6	Nonferrous Metal Ores Mining
7	Coal Mining
8	Crude Petroleum & Natural Gas
9	Stone and Clay Mining and Quarrying
10	Chemical & Fertilizer Mineral Mining
11	New Construction
12	Maintenance & Repair Construction
13	Ordnance & Accessories
14	Food & Kindred Products
15	Tobacco Manufactures
16	Broad & Narrow Fabrics, Yarn & Thread Mills

17	Miscellaneous Textile Goods & Floor Coverings
18	Apparel
19	Miscellaneous Fabricated Textile Products
20	Lumber & Wood Products, Except Containers
21	Wooden Containers
22	Household Furniture
23	Other Furniture & Fixtures
24	Paper & Allied Products, Except Containers
25	Paperboard Containers & Boxes
26	Printing & Publishing
27	Chemicals & Selected Chemical Products
28	Plastics & Synthetic Materials
29	Drugs, Cleaning & Toilet Preparations
30	Paints & Allied Products
31	Petroleum Refining & Related Industries
32	Rubber & Miscellaneous Plastics Products
33	Leather Tanning & Industrial Leather Products
34	Footwear & Other Leather Products
35	Glass & Glass Products
36	Stone & Clay Products
37	Primary Iron & Steel Manufacturing
38	Primary Nonferrous Metal Manufacturing
39	Metal Containers
40	Heating, Plumbing & Structural Metal Products
41	Stampings, Screw Machine Products & Bolts
42	Other Fabricated Metal Products

43	Engines & Turbines
44	Farm Machinery & Equipment
45	Construction, Mining & Oil Field Machinery
46	Materials Handling Machinery & Equipment
47	Metalworking Machinery & Equipment
48	Special Industry Machinery & Equipment
49	General Industrial Machinery & Equipment
50	Machine Shop Products
51	Office, Computing & Accounting Machines
52	Service Industry Machines
53	Electric Industrial Equipment & Apparatus
54	Household Appliances
55	Electric Lighting & Wiring Equipment
56	Radio, Television & Communication Equipment
57	Electronic Components & Accessories
58	Miscellaneous Electrical Machinery, Equipment & Supplies
59	Motor Vehicles & Equipment
60	Aircraft & Parts
61	Other Transportation Equipment
62	Scientific & Controlling Instruments
63	Optical, Ophthalmic & Photographic Equipment
64	Miscellaneous Manufacturing