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## Irish Input—Output Structures 1964 and 1968

E. W. HENRY

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THE ECONOMIC AND SOCIAL RESEARCH INSTITUTE

# IRISH INPUT-OUTPUT STRUCTURES 1964 and 1968

E. W. HENRY

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The author completed compilation of the 1964 and 1968 Tables while employed at the Central Statistics Office. His analysis of the results and his methods of treatment of imports are not necessarily those of CSO or ESRI. He alone is answerable for any errors or omissions which the paper contains.

# *Irish Input-Output Structures* 1964 *and* 1968

E. W. HENRY*


## SUMMARY

This paper is divided into four main sections as follows:

(1) Import classification used; input-output table for 1968 corresponding to 1964 published table.

(2) Final demands 1964 and 1968 broken down into their primary input components.

(3) Allocations of imports for 1964 and 1968.

(4) Changes in inter-industry direct input coefficients between 1964 and 1968.

The text contains six tables and in addition there are three appendices. The 1968 input-output table described in Section 1 of the text appears in Appendix 3, which gives the transactions the direct input coefficients and the inter-dependence coefficients (I—A Inverse). Primary input components of final demand 1964 and 1968 form Appendix 1. Part 1 of Appendix 2 has 1964 and 1968 unit final demand broken down into the primary input components, for each of the 33 productive sectors. Parts 2, 3 and 4 of Appendix 2 show 1964 and 1968 allocations of similar and complementary imports to aggregate productive sectors and to various columns of final demand.


*The author is a member of the staff of The Economic and Social Research Institute. The paper has been accepted for publication by the Institute. The author is responsible for the content of the paper and the views expressed therein.

*Import Classification Used*

If one requires detailed analysis of the import content of parts of final demand for a given transactions table, then imports must be fully allocated in detail to each column of the transactions table and all imports are treated as primary inputs. The alternative treatment distributes "similar" imports along the inter-industry rows with domestic products and thus permits substitution to occur, the combined flow being relatively stable, as a proportion of total input to each column of a productive sector. This latter treatment of similar imports makes for easier compilation of transactions tables and the derived coefficients have certain advantages.

*Input-Output Table for 1968*

This table matches that for 1964 published in [4], apart from extension of the 1964 list of similar imports for 1968 and a transfer of tourist expenditure from 1964 invisible exports to 1968 personal expenditure column of final demand. Some data deficiencies of the 1968 results are discussed.

*Primary Input Components of Final Demand 1964 and 1968*

At the level of the four main sub-aggregates of final demand, the direct plus indirect content for major primary inputs is fairly stable for the two years. Personal expenditure 1968 has 27 per cent imports, 21 per cent indirect taxes, 29 per cent wages etc. and 27 per cent gross profits. Government current expenditure shows 10 per cent imports, 73 per cent wages etc. and 15 per cent gross profits for 1968. Gross fixed capital formation 1968 has 47 per cent imports, 37 per cent wages etc. and 11 per cent gross profits. Exports except tourism have 30 per cent imports, 27 per cent wages etc. and 44 per cent gross profits 1968. For this latter sub-aggregate of final demand, imports increased by 5 per cent and gross profits decreased by 6 per cent over the four-year interval.

*Allocations of Imports for 1964 and 1968*

For inputs of similar imports to productive sectors (i.e. total inter-industry) the changes between 1964 and 1968 are examined in some detail by means of permanent imports of commodities known to be wholly or mainly used by the productive sectors. Some measures of the changes caused by the 1968 extension of the lists of 1964 similar imports are shown. A parallel assessment of final demand commodities is also made. The complementary import patterns are then analysed and compared for the two years.

*Changes in Direct Input Coefficients between 1964 and 1968*

General causes of change are discussed and some solutions to the problems of change outlined. Frequency distributions of size of change versus size of 1964 coefficient are shown at current and at 1968 prices, for appropriate sets

of coefficients. A detailed analysis of the underlying causes of large changes in some nine large coefficients is given as an illustration of the causes at work throughout the system. Conclusions are drawn, as to the need for better data on input structures of some sectors, the importance of only one coefficient in four, and the difficulty of obtaining a fully satisfactory list of similar imports.

## SECTION 1: IMPORT CLASSIFICATION USED; INPUT-OUTPUT TABLE FOR 1968 CORRESPONDING TO PUBLISHED 1964 TABLE

*Input-Output Results for 1956, 1960 and 1964*

The first input-output results for Ireland were for the year 1956 and consisted of a transactions table of 36 sectors, having competitive imports distributed along with domestic commodities. This table was prepared in the Central Statistics Office (CSO) but the results were not released officially. Later they were unofficially published in a paper by J. McGilvray [1]. A table for 1960, also compiled at CSO, appeared unofficially in R. C. Geary's "Lectures on Input-Output" [2]. This table had all imports distributed along a single row, but otherwise was of the same design as that of 1956. A curtailed version of the 1960 table, having 9 productive sectors, appeared in Dr Geary's paper on an Input-Output Decision Model [3]. The first official CSO input-output publication, "Input-Output Tables for 1964" [4], contained tables of 92, 33 and 17 productive sectors, with similar imports distributed along with domestic commodities.

*Two Systems for Classifying Imports*

In the Irish input-output compilations two systems for classifying imports have been in use. The first system for classifying imports by type subdivides them into competitive and non-competitive categories. Competitive imports are those kinds which compete directly with domestic products on the home market and are close substitutes for domestic items. Examples are furnished by woollen piece goods, biscuits, assembled motor cars etc. Non-competitive imports include those goods which have no domestic equivalent (e.g. crude petroleum, tea, aircraft components) as well as all items not defined as competitive.

The alternative system classifies imports into similar and complementary categories. Similar imports cover a wider range of commodities than do competitive imports and could be described, rather than defined, as commodities which could be substituted for fairly quickly by domestic items in an emergency. Thus textile piece-goods in general, wheat and maize, and many kinds of metal and plastic hardware are classified as Similar. The 1968 listing of similar imports is larger than that of 1964, as will be discussed in Section 3 below. The complementary imports include all other kinds, such as the crude petro-

leum, tea and aircraft components referred to above as non-competitive. The 1968 list of items is restricted to items which could not be domestically produced or which are unlikely to be produced at home for some years ahead, this 1968 list being somewhat smaller than that of 1964. The complementary imports of 1968 include most components of unassembled vehicles and many kinds of machinery parts.

The system which has the similar and complementary import classification is considered the more satisfactory for Irish conditions. It is likely that the 1968 listing of similar imports will change only slightly over 6 to 8 years although the range of home-manufactured goods becomes extended via growth and diversification of the manufacturing sector. A relatively stable pattern of input per £1 unit of output of purchasing sectors is obtained by combining domestic commodities with similar imports, since substitution between domestic and imported commodities can occur along a row of the transactions table without significantly changing the input structures. The assumption of a one-to-one value substitution is unlikely to be seriously in error.

This treatment of similar imports has one further main advantage. In compiling the transactions table, Census of Industrial Production data for materials used, such as woollen piece goods purchased by the clothing industries, do not need to be broken down between domestic and imported components. The total supply, consisting of domestic and imported item-groups, can thus be distributed to known or estimated purchasers without breakdown of each transaction between domestic and imported shares.

There is one serious disadvantage of this treatment of similar imports, namely that the direct plus indirect import content of final demand is available only for final demand as a whole, not for any of its rows or columns. That final demand as a whole directly and indirectly absorbs all imports is obvious. It is not the purpose of this essay to go into the algebraic explanation of estimation of import content and a technical discussion is contained in [5]. In fact, the highest possible precision is needed (using all available detailed information) as to the amounts of similar and complementary imports absorbed directly by each column of the transactions table, in order to get a precise estimate of the total import content per unit of final demand for the domestic output of a particular row. For a detailed answer, one must use detailed information.

Thus for this latter kind of result, which is of some importance, it is necessary to allocate the similar imports in exactly the same way as complementary imports—to estimate the amounts purchased by each input column. Both kinds of imports are now primary inputs and the I—A inverse relates only to purely domestic coefficients. An analysis of this kind for 1964 and 1968* is described in Section 2 below.

*The 33-sector transactions tables for 1964 and 1968, having all imports listed separately as primary inputs, together with derived technical coefficients and I—A inverse, are available at the Economic and Social Research Institute and will be supplied upon request.

*Input-Output Results for 1968 corresponding to published 1964 Table of 33 Sectors*

A transactions table for 1968, compiled at CSO and having 33 productive sectors and similar imports distributed with domestic commodities along the first 16 rows, appears as part 1 of Appendix 3. The aggregates of the similar imports distributed along these 16 rows appear as the first 16 entries of the column "Merchandise Imports" and are subtracted off each corresponding total flow to give domestic flow for each of the 16 rows in question. Except for tourist expenditure 1968 being included with households in personal expenditure, whereas tourist expenditure 1964 was included in invisible exports, the design corresponds with that of the 33-sector table for 1964 published in [4]. Part 2 of Appendix 3 has the direct input coefficients, which sum to unity for each column of the 33 columns, showing the inputs to (purchases by) the productive sectors, for £1 worth of domestic output. In part 3 of Appendix 2 are given the interdependence coefficients, showing the direct plus indirect costs of inputs per £1 of domestic output to final demand. For £1 of final demand for the output of the domestic sector named at the head of the column, the direct plus indirect costs of required inputs are shown in that column. The interdependence coefficients are sometimes referred to as "total requirement coefficients" or as the I—A inverse. Various algebraic models for description of direct input and interdependence coefficients appear in [1], [2] and [5].

It is to be noted that the 1968 interdependence coefficients as calculated assume that the flows along the first 16 rows are completely domestic, although there are, in fact, flows of similar imports included in these transactions. Thus the coefficients, as shown, assume similar imports for 1968 behaving like domestic activities and requiring direct plus indirect inputs for their production. Such over-estimation is corrected for by subtracting total similar imports for a row from total final demand for that row, and using the difference to multiply up the corresponding column of interdependence coefficients so as to obtain the vector of domestic outputs required. The similar imports can be thought of as negative exports having a uniform shrinkage effect on aggregate final demand for a particular row, for the purpose of any application of final demand multipliers to the columns of the I—A inverse.

Once the domestic outputs of the sectors have been calculated for any pattern of final demand less similar imports, via use of the columns of the I—A inverse, the primary input coefficients of part 2 of Appendix 3 can be applied to give complementary import requirements, wages/pensions arising, and so on, for such levels of domestic outputs. The primary input flows direct to final demand are outside the scope of the input-output (denoted by I—O below) model as shown in parts 2 and 3 of Appendix 3 and have to be added on to any solutions derived from such a model.

*Data Deficiencies of the 1968 Transactions Table*

The 1968 table and coefficients as given in Appendix 3 are considered to be a useful addition to the published 1964 results and to have improved

similar import classification. The figures, however, have some limitations which make certain sections of the 1968 table not comparable with 1964 data apart from effects of changes in similar import lists. For 1968, profits and depreciation data were not available for individual sectors within transportable goods and had to be distributed pro rata remainder of net output, as given by the Census of Industrial Production for 1968. Thus the rows for profits, depreciation and artificial sectors n.e.s. within columns 5–16 inclusive have less precise entries than those of the 1964 table. Otherwise, less detail was used for compilation row-wise than in the case of 1964. The 33-sector 1968 table is considered to be a fair approximation to what would emerge from the detailed level of treatment used in compiling 1964 I—O results.

In the $33 \times 33$ matrix of inter-industry transactions, there were 333 non-zero entries for 1964 and 395 non-zero entries for 1968. For 29 entries of 1964 there are blanks for 1968, these 29 having an aggregate of £15·7 million and in thousand pound units, an average value of 541 which is about one-fifth of the average transactions value for the other 304 non-zero 1964 coefficients. There are 91 non-zero 1968 transactions corresponding to blanks in 1964, their aggregate being £21·4 million and in thousand pound units, their average value being 235, which is about one-seventeenth that of the other 304 non-zero 1968 entries. Thus the 120 transactions which are matched by blank cells of the table in either 1964 or 1968 are of relatively small average size. Their appearances or disappearances result from incomplete or inconsistent information and necessarily arbitrary allocations. Some four kinds of data problem can explain them. In the detailed listing of materials used as given by the census of industrial production, certain minor inputs may appear in one year and not in another, the degree of detail to some extent depending on the respondents. In the same context, relatively trivial inputs may be described as "other" i.e. unspecified and in compiling the transactions table a reasonable but arbitrary guess is required to specify the kind of input in question. For certain relatively small sectors such as forestry, fishing, farmers' peat (part of solid fuel), the 1964 input structure was revised to appear more likely for 1968, on the basis of improved information or second thoughts on costings. Finally, recourse had to be made to sample data for input patterns of certain service sectors and it was decided to use the structures available for 1968 rather than adhere rigidly to those used for 1964. In summary, these 120 entries unmatched by non-zero entries in either year are of minor importance in the overall scheme, although they portray weaknesses in the data.

## SECTION 2: FINAL DEMANDS 1964 and 1968 broken down into their PRIMARY INPUT COMPONENTS

*I—O 1964 and 1968 Results Derived from Transactions tables having all imports separate*

In order to remove lack of comparability arising from definitions of similar imports differing from their 1964 definitions, and to permit detailed analysis

of final demand in terms of primary inputs, 33-sector I—O tables for 1964 and 1968 have been compiled at CSO in which all similar imports have been extracted from combined flows for rows 1–16 and, like complementary imports, treated as primary inputs. The similar imports were extracted by examining the kinds of commodities in considerable detail, with reference to Census of Industrial Production "material used" and taking the imports *pro rata* the total input of a commodity, if more than one user occurred. By using the primary input coefficients and I—A inverse derived from these transactions tables, each column of final demands can be analysed into its primary input components. Part 1 of Appendix 1 gives such an analysis for 1964 and similar results for 1968 appear in part 2 of Appendix 1. The primary input components are also shown in percentage form. Table 1 brings together the summarised results and derived percentages for 1964 and 1968. The pattern for personal expenditure shows little change for 1968 compared with 1964, with gross profits reduced by 2 per cent and imports reduced by 1 per cent, for a 3 per cent increase in indirect taxes. Government current expenditure for the later year shows smaller wages (3 per cent) with profits and imports increasing. Gross fixed capital formation for 1968 has a 2 per cent increase in indirect taxes and a 1 per cent increase in imports with compensating reductions in wages and profits. The 1968 exports show a sizeable (5 per cent) increase in imports, which indicates less reliance upon agriculture and food industries (which have relatively small import content) and development of exports from expansions in other sectors of manufacturing. The 1968 exports also show a 4 per cent increase in wages and a 2 per cent increase in subsidies, by contrast with a 6 per cent reduction in gross profits.

That the pattern is fairly stable, but showing certain noticeable changes over a four year span is one general conclusion. That the import content of exports would likely be reduced by a major expansion of exports from agriculture and certain food industries (as might happen via the Common Market), with increased profits content is a further conclusion. Reduction in the subsidy on exports is likely also as we move towards full Common Market Membership.

Part 1 of Appendix 2 compares the primary input analysis of a £1 unit of 1964 and 1968 domestic output to final demand, from each of the 33 productive sectors of the transactions table. The primary input components add to unity for each productive sector and include direct and indirect requirements for each primary input. It is these coefficients, when weighted by the corresponding domestic components of each column of final demand, which give the entries denoted "Via intermediate" in Appendix 1. Each £1 of final output of 1968 agricultural crops, for instance, requires £0·219 of imports, as against only £0·097 for livestock. Metal etc. needs £0·707 of imports directly and indirectly per £1 of final demand. By means of these "Total requirement" coefficients it is possible to analyse any pattern of final demand for domestic outputs.

Significant changes in coefficients between 1964 and 1968 might be expected for (3) forestry, (4) fishing, (5) solid fuel, (6) stone/ores/gravel and (29) hotel/

TABLE 1: *Primary Input Content of Final Demand, 1964 and 1968. £000, Current Prices*

| *Primary Input Type* | *Personal Expenditure (including Tourism)* | | *Government Current Expenditure* | | *Gross Fixed Capital Formation* | | *Exports of Goods and Services, except Tourism* | | *Total Final Demand* | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *1964* | *1968* | *1964* | *1968* | *1964* | *1968* | *1964* | *1968* | *1964* | *1968* |
| Imports | 201,062 | 257,837 | 9,164 | 17,205 | 80,043 | 119,097 | 78,595 | 150,840 | 378,775 | 568,678 |
| (per cent) | (27.74) | (26.76) | (7.67) | (10.19) | (45.98) | (47.19) | (24.91) | (30.25) | (28.01) | (29.93) |
| Indirect taxes | 129,944 | 199,963 | 3,115 | 3,731 | 4,951 | 11,704 | 15,121 | 20,816 | 154,098 | 237,420 |
| (per cent) | (17.93) | (20.75) | (2.61) | (2.21) | (2.84) | (4.64) | (4.79) | (4.18) | (11.40) | (12.50) |
| Less subsidies | −22,496 | −31,136 | −164 | −371 | −111 | −353 | −10,647 | −26,761 | −33,763 | −59,510 |
| (per cent) | (−3.10) | (−3.23) | (−0.14) | (−0.22) | (−0.06) | (−0.14) | (−3.37) | (−5.37) | (−2.50) | (−3.13) |
| Wages etc. | 206,291 | 274,856 | 90,894 | 123,106 | 66,096 | 93,082 | 73,483 | 133,976 | 443,351 | 626,168 |
| (per cent) | (28.46) | (28.53) | (76.13) | (72.92) | (37.96) | (36.88) | (23.29) | (26.87) | (32.79) | (32.96) |
| Gross profits (profits plus depreciation) | 210,034 | 261,956 | 16,391 | 25,159 | 23,121 | 28,868 | 158,948 | 219,720 | 409,774 | 527,215 |
| (per cent) | (28.97) | (27.19) | (13.72) | (14.90) | (13.28) | (11.44) | (50.38) | (44.06) | (30.30) | (27.75) |
| Total | 724,835 | 963,476 | 119,400 | 168,830 | 174,100 | 252,398 | 315,500 | 498,591 | 1,352,235 | 1,899,971 |
| (per cent) | (100) | (100) | (100) | (100) | (100) | (100) | (100) | (100) | (100) | (100) |

catering margin, because of known changes in assumed input structures and, for (6), growth of metal mining which was negligible for 1964. For these one might regard the 1968 coefficients as being the best available. Two sets of coefficients are hardly sufficient for precise prediction of future values but at least indicate, for the other sectors, the variability over a four-year span. For the coefficients under discussion, the two most important causes of change are (*a*) changes of relative importance of sub-sectors within sectors e.g. animal slaughtering within food (*b*) incomplete information on input structures which involves either assumptions of structure or use of small sample results. Section 4 following will consider these and other causes of changes in coefficients.

*Comparison of 1964 and 1968 Import Content of Selected Final Demands*

Because the direct plus indirect import content of components of final demand or aggregates of the latter is important for balance of payments purposes, Table 2 has been compiled to show such results. The constancy or change of the import content, as a percentage of each final demand value, for 1968 compared with 1964, shows how stable or otherwise is the import ingredient. There is also some interest in the magnitudes of the final demand components themselves. If the import percentage is relatively stable for the two years although the value of the item has increased considerably between 1964 and 1968, then that import percentage is likely to be a fairly reliable estimator, for applications to the corresponding item of final demand for some other year.

*Household Expenditure*

The import content of household expenditure and of personal expenditure (household plus purchases by tourists) is 28 per cent for 1964 and 27 per cent for 1968, although the value of these items has increased by about one-third over the four years. Thus an import estimator of 27 per cent should be fairly reliable, with an error of 1 per cent giving rise to an import error of the order of £10 million.

*Government Current Expenditure*

Government current expenditure increased by some 40 per cent over the four-year span, with the import content increasing from 7·7 to 10·2 per cent, mainly because of increases in medical supplies for local authority hospitals etc. The import percentage might increase further in years following 1968, each one per cent increase meaning some £2 million extra imports. The 1968 level of 10·2 per cent should, therefore, not be used uncritically in application to later years.

TABLE 2: *Direct Plus Indirect Import Content of Selected Final Demands 1964 and 1968*

| *Type of Final Demand* | *1964* | | *1968* | |
|---|---|---|---|---|
| | *Value £000* | *Import Content per cent* | *Value £000* | *Import Content per cent* |
| Household expenditure | 666,035 | 27.96 | 887,776 | 27.00 |
| Personal expenditure (household plus tourism) | 724,835 | 27.74 | 963,476 | 26.76 |
| Government current expenditure | 119,400 | 7.67 | 168,830 | 10.19 |
| Gross fixed capital formation | 174,100 | 45.98 | 252,398 | 47.19 |
| (of which, building +construction) | (99,240) | (25.47) | (143,582) | (27.58) |
| (Other gross fixed capital formation) | (74,860) | (73.16) | (108,816) | (73.06) |
| *Exports of Goods and Services:* | | | | |
| Merchandise exports (excluding re-exports) | | | | |
| Food | 65,086 | 25.24 | 113,585 | 25.67 |
| Drink/tobacco | 8,237 | 27.60 | 11,930 | 31.62 |
| Textiles (ex. hosiery) | 9,792 | 51.71 | 17,384 | 45.40 |
| Clothing/hosiery/shoes/leather | 15,859 | 42.00 | 28,373 | 46.10 |
| (Textiles and clothing) | (25,651) | (45.71) | (45,757) | (45.83) |
| Wood/furniture | 2,354 | 38.32 | 2,956 | 42.22 |
| Paper/printing | 5,747 | 34.49 | 6,984 | 28.91 |
| Chemicals | 2,634 | 46.68 | 13,087 | 50.58 |
| Clay/cement/glass | 2,950 | 23.87 | 6,347 | 24.01 |
| Metal/eng./vehicles | 20,610 | 53.21 | 37,030 | 56.10 |
| Other manufacturing | 5,267 | 64.40 | 37,842 | 70.67 |
| (Total manufactures) | (138,536) | (35.80) | (275,518) | (40.95) |
| Agricultural livestock | 58,459 | 11.37 | 49,805 | 9.69 |
| Agricultural crops (ex. peat) | 2,362 | 20.79 | 1,759 | 21.94 |
| Fishing | 1,804 | 13.65 | 1,323 | 13.68 |
| Solid fuel | 646 | 3.92 | 683 | 6.51 |
| Stone/ores/gravel | 279 | 16.65 | 9,270 | 15.64 |
| *Invisible Exports* | | | | |
| Tourism | 58,800 | 25.25 | 75,700 | 24.60 |
| All other services | 22,568 | 20.86 | 40,661 | 26.03 |

*Gross Fixed Capital Formation*

The import content of gross fixed capital formation changed slightly from 46 to 47 per cent between 1964 and 1968 for a 45 per cent increase in the value of the item. This import percentage thus appears to be stable. Within GFCF, however, there are two components having significantly different import content. Building and construction had 25·5 and 27·6 per cent imports for 1964 and 1968 respectively, the increase in import ingredients being due to increased

inputs of metallic materials such as those for central heating, plumbing and electrical wiring etc. This increase might continue for some years ahead. The remainder of GFCF had the remarkably high import content of 73 per cent in both years. This residual GFCF is mainly plant, machinery and vehicles and consists of imported assembled or unassembled components which have very little domestic value added after import. The 73 per cent level is considered unlikely to increase. The overall GFCF import level of about 47 per cent was kept stable by the same 45 per cent growth rate for both building and the residue. For any predictions of import content of GFCF it is clearly desirable to treat the two components separately, since the import content of the aggregate will depend significantly on the relative weights of the two components.

*Merchandise Exports*

Since Table 2 shows the details, the following comments will be limited to a few salient points. The exports in question are the domestic outputs of the sectors, with re-exports excluded, the latter, however, being included in results of Table 1. Values are shown at producers' prices, thus the results of Table 2 exclude import content of trade and transport margins arising between the factory and the port.

For individual items within the fifteen separate kinds shown, the import percentage shows increases or decreases of up to 6 per cent e.g. textiles (ex. hosiery): 51·7 for 1964 and 45·4 for 1968, other manufacturing: 64·4 for 1964 and 70·7 for 1968. No recommendations will be made here on methods of projecting the import percentages. The two sets of figures at least illustrate the range of difference one can expect over four years. By far the highest percentage is that of other manufacturing, at 70·7 per cent for 1968, an increase of 6·3 per cent since 1964. This sector is a group of industries of very diverse nature, depending heavily upon imported material inputs and in some instances being included in the sector for reasons of data confidentiality. Petroleum refining, rubber goods, tyre re-treading, plastic products including packaging, as well as certain kinds of light engineering, all form parts of the sector. By referring to the 73 per cent import content of other GFCF mentioned above, one might surmise that the import content of other manufacturing is unlikely to exceed the order of 75 per cent.

For exports of total manufactures the growth over the four years was 99 per cent, a remarkable achievement. The import content increased from 36 to 41 per cent. The extra 5·2 per cent of the 1968 level of £276 million means some £14 million extra imports, whereas £23 million is due to the increase of £32·5 million of exports from other manufacturing, having a 1968 import content of 70·7 per cent. So that the increased weight of the latter import-intensive sector accounts for a larger part of the overall increase of £63 million than does the increase of 5 per cent in the rate of import content per unit, for total manufactures.

The import content of some 22 per cent for agricultural crops as agains

only some 10 per cent for livestock is due to the former directly and indirectly absorbing imported fertilisers and materials for fertilisers.

A final general comment on the variations in import proportions for each separate kind as listed is that the variation may be due to changes in relative weights of sub-sectors within the sector listed. Some of these changes in weighting pattern are considered below in Section 4 of the paper. If one were treating 50 separate sectors of manufacturing, rather than the 10 sectors used in Table 2 and elsewhere, one might find stable import percentages for many of the 50 sectors.

*Invisible Exports*

At about 25 per cent for both years, the import content of tourism expenditure appears to be stable. The breakdown of this expenditure among purchases of goods and services is of doubtful reliability and thus the figure of 25 per cent is to be regarded as of the right order of magnitude, rather than precise. It is roughly the same as that of personal expenditure, which showed some 27 per cent for 1968.

The main component of all other services is transport, which formed about two-thirds of the export for 1964 and about three-quarters for 1968. The import content of transport was 24·3 per cent for 1964 and 29·4 per cent for 1968, the increase of 5 per cent arising from increasing relative weight of air transport. This double effect is the main cause of the increase from 21 to 26 per cent import content of all other services, 1964 to 1968. It is difficult to predict whether the 26 per cent level of 1968 is likely to increase in later years. One could use levels such as 30 or 33 per cent for alternate estimates of import content.

## SECTION 3: ALLOCATIONS of IMPORTS for 1964 and 1968

*Comparison of 1964 and 1968 Similar Imports Allocated to Productive Sectors (i.e. aggregate Inter-Industry)*

The expansion of the list of domestic products between 1964 and 1968 revealed that some imports treated as complementary for 1964 should change their status for 1968 and become similar. It was decided that the 1964 listing of similar was particularly restrictive for (15) metals/engineering/vehicles and (16) other manufacturing, with less need of extension for the other manufacturing sectors. Accordingly, the list of similar imports was extended for 1968 with the intention of making it sufficiently comprehensive to cater for new domestic products in the foreseeable future. Thus the combined flows of domestic products and similar imports as specified for 1968 rows (1) to (16) are expected to have improved stability for some years ahead.

The detailed allocation of the similar imports in both years among the

productive sectors is summarised in Part 2 of Appendix 2. For 1964 the aggregate value was £102·8 million, forming 20·0 per cent of the combined flow of rows (1) to (16) absorbed by sectors (1) to (33). The corresponding similar import flow for 1968 was of value £184·5 million, at the level of 23·6 per cent. Table 3 goes some way towards showing changes in levels of similar imports between 1964 and 1968 as well as the effects of expanding the list for 1968. As far as is practicable the item-groups shown are of goods wholly or mainly used as inputs to productive sectors rather than goods for final demand. Although the entries in Table 3 exclude parcel post, temporary transactions and Shannon trade, being confined to permanent import values shown in the main body of the Official Import List, the changes in general explain those appearing in Part 2 of Appendix 2. The 1964 entries which were treated as complementary and thus not matching the fuller 1968 list are shown in brackets and marked with an asterisk and not included in the 1964 sector aggregates.

The decrease of £2 million inputs of agricultural livestock is shown in the permanent imports of live animals except greyhounds. The £4 million increase for agricultural crops arises in imports of unmilled cereals and cereal seeds. Some £2·8 million increase in animal feed imports explains the like increase in food imports. For textiles except hosiery about £7 million of the £10 million increase is shown by the items listed in Table 3. Of the total £4·2 million increase in clothing etc. similar imports, £2·4 million appears in Table 3, as does £4 million of the overall £5·6 million increase in wood manufactures. Of the £6·4 million increase in paper imports, £2·6 million for pulp and waste paper is due to expansion of the 1964 list of similar imports to include this item-group. The apparent increase of £30 million for metal items and electrical components would be reduced to some £12 million if listing of items for 1964 was consistent with that of 1968. About half of the £8·6 million increase for other manufacturing is likely to be due to petroleum products and tyres etc., after allowing some of the former to final demand, with the latter absorbed by productive sectors including an artificial sector for vehicle repairs. The overall aggregates of £104 million for 1964 and £177 million for 1968 approximate the £103 million and £185 million respectively of Appendix 2 (Part 2). Some £23 million extra for 1964 would have entered the lists, on the basis of 1968 similar import definitions. The Table 3 results for textiles (ex. hosiery), clothing etc. and metal etc. would show somewhat greater increases between 1964 and 1968 if Shannon trade had been included. The allocations in Parts 2, 3 and 4 of Appendix 2 include all relevant items, namely the permanent and temporary imports treated as similar, together with estimates of parcel post and Shannon components.

*Comparison of 1964 and 1968 Similar Imports Allocated to Final Demand*

Part 3 of Appendix 2 shows the detailed comparisons for the same sixteen rows as of Part 2. Commentary will be limited to a few sectors. The aggregate

TABLE 3: *Listed Items of Similar Imports Completely or Mainly Inter-Industry Inputs, 1964 and 1968. (Values exclude Parcel Post, Temporary Transactions, Shannon Trade).*

| *Item-Group* | *1964* £ *million* | *1968* £ *million* |
|---|---|---|
| Live animals excluding greyhounds | 17.2 | 15.0 |
| Wool and hair | 3.7 | 3.6 |
| (1) Agricultural livestock | 20.9 | 18.6 |
| Unmilled cereals and seeds of cereals | 9.3 | 13.3 |
| (2) Agricultural crops | 9.3 | 13.3 |
| Animal feed excluding dog food | 5.0 | 7.8 |
| Hides and skins, undressed | 0.7 | 0.8 |
| (7) Food | 5.7 | 8.6 |
| Wool tops, noils, shoddy etc. | 1.5 | 1.9 |
| Synthetic fibres | *(1.0) | 1.4 |
| Woollen and worsted yarn | 3.7 | 2.6 |
| Yarn of cotton, flax, hemp | 1.6 | 1.6 |
| Synthetic yarn | 2.9 | 5.9 |
| Cotton and linen piece goods | 5.5 | 5.6 |
| Woollen piece goods | 1.5 | 2.1 |
| Synthetic piece goods | 2.3 | 4.3 |
| Coated piece goods | 0.9 | 1.4 |
| (9) Textiles (except hosiery) | 19.9 | 26.8 |
| Knitted fabric | 0.7 | 2.5 |
| Leather | 1.5 | 2.1 |
| (10) Clothing etc. | 2.2 | 4.6 |
| Sawn lumber | 6.1 | 9.3 |
| Wood sheets, plywood etc. | 1.2 | 2.1 |
| (11) Wood/furniture | 7.3 | 11.4 |
| Pulp and waste paper | *(2.1) | 2.6 |
| Newsprint and other printing and writing paper | 2.8 | 3.0 |
| Paper for packaging | 3.1 | 6.4 |
| Bags, boxes etc. | 0.8 | 1.5 |
| (12) Paper/printing | 6.7 | 13.5 |
| Manufactured fertilisers | 6.9 | 9.1 |
| Fixed vegetable oils and fats | 1.3 | 1.7 |
| Medical and veterinary items | 3.3<br>*(1.3) | 9.0 |
| Insecticides, fungicides, weed-killers etc. | 0.4 | 1.0 |

TABLE 3—*continued*

| *Item-Group* | *1964* £ *million* | *1968* £ *million* |
|---|---|---|
| (13) Chemicals | 11.9 | 20.8 |
| Building materials of stone, concrete, asbestos etc. | 1.2 | 1.7 |
| Glass sheets, plates etc. | 0.5<br>*(0.4) | 1.3 |
| (14) Clay/cement/glass | 1.7 | 3.0 |
| Crude metal and items other than machinery | 9.3<br>*(9.1) | 26.8 |
| Electrical machinery | 2.1<br>*(8.5) | 13.5 |
| (15) Metal/engineering/vehicles | 11.4 | 40.3 |
| Gas/diesel oil, fuel oil, petrol, lubricants | 3.9 | 8.3 |
| Rubber tyres and tubes | 0.3<br>*(0.2) | 1.6 |
| Plastic products | 4.6 | 6.3 |
| (16) Other manufacturing | 8.8 | 16.2 |
| Total listed | 103.8<br>*(22.6) | 177.1 |

*Treated as Complementary for 1964 and value excluded from sub-aggregates shown above.

increased from £45·9 million for 1964 to £110·8 million for 1968 i.e. by some £65 million with Table 4 having five selected sectors explaining about £40 million of this increase. The item-groups used for Table 4 are confined to permanent imports of goods wholly or mainly for Final Demand.

Of the £3·5 million total increase for food, £2·2 million is shown in Table 4 as caused by four item-groups. The clothing group has a growth of £3·5 million in Table 4, as against £5·7 million of Appendix 2 (Part 3), some of the latter change being due to textile piece goods. The apparent £5·2 million increase for paper/printing is not well explained by the £2·1 million difference of Table 4, with a possible inconsistency of allocation to personal expenditure in the 1964 and 1968 input-output tables. A serious difficulty exists in dividing this group between residual business current expenditure (part of productive sector (33) ) and personal expenditure. The £26.3 million increase for metal etc. shown in Part 3 of Appendix 2 is approached by the £17·1 million difference appearing in Table 4. Some £6·1 million of this is due to the 1964 shortfall in the 1968 listing of similar imports. The £13 million growth for other manufacturing is related to some £5 million unlisted for 1964 and further increases in all four item-groups listed in Table 4, although for sector (16) the Table 4 commodities are not as closely identified with those of the appendix as for sector (15).

TABLE 4: *Listed Items of Similar Imports completely or mainly Final Demand Inputs, 1964 and 1968. (Values exclude Parcel Post, Temporary Transactions, Shannon Trade.)*

| *Item-Group* | *1964* £ *million* | *1968* £ *million* |
|---|---|---|
| Fish processed | 0.9 | 1.2 |
| Cereals, bread, biscuits etc. | 0.8 | 1.7 |
| Processed vegetables | 0.7 | 1.4 |
| Soups including dried | 0.6 | 0.9 |
| (7) Food | 3.0 | 5.2 |
| Clothing | 3.0 | 6.5 |
| Footwear | 0.6 | 0.8 |
| (10) Clothing etc. | 3.6 | 7.3 |
| Printed matter | 3.3 | 5.0 |
| Wallpaper | 0.2 | 0.3 |
| Envelopes, stationery, carbon paper etc. | 0.4 | 0.7 |
| (12) Paper/printing | 3.9 | 6.0 |
| Agriculture and dairy machinery | * 2.2 | 5.5 |
| | (0.8) | |
| Tractors | *Nil | 4.4 |
| | (2.7) | |
| Electric generators, motors, rectifiers, transformers etc. | 1.5 | 2.1 |
| | *(0.6) | |
| Fridges, washers, cleaners etc. | 0.9 | 1.1 |
| Electrothermic goods | 0.8 | 1.1 |
| Gramophones, recording etc. | 0.4 | 0.8 |
| Vehicles | Nil | 7.9 |
| | *(2.0) | |
| (15) Metal etc. | 5.8 | 22.9 |
| Petroleum, bitumen, tar etc. | 5.3 | 10.0 |
| Rubber products | 0.5 | 3.6 |
| | *(1.6) | |
| Plastic products | 4.9 | 8.4 |
| | *(1.0) | |
| Miscellaneous | 0.6 | 4.7 |
| | *(2.5) | |
| (16) Other manufacturing | 11.3 | 26.7 |
| Total listed | 27.6 | 68.1 |
| | *(11.2) | |

*Treated as Complementary for 1964 and value excluded from sub-aggregates shown above.

The general impression obtained from the comparisons is indeed like that given by Table 3: 1968 levels generally are higher, because of increases in matched items and extension of the list and there may be some inconsistent entries here and there, due to compilation problems.

*Comparison of 1964 and 1968 Complementary Import Allocations*

Part 4 of Appendix 2 shows the allocations of the complementary imports for the two years under eleven descriptions, for five kinds of final demand and a summary column, as well as summary columns for total inter-industry and the overall row aggregates. The total increased from £230 million for 1964 to £273 million for 1968, that is by £43 million which consisted of an increase of £49 million to inter-industry and a decrease of £6 million to final demand. A few comments on the comparisons for individual rows follow the obvious remark that the 1968 levels are reduced by the increased listing of items as similar, compared with 1964.

The first row, for food, wines, raw tobacco is comparable for both years, the food being citrous fruits, grapes etc., raw sugar, tea, coffee and cocoa beans, hops, sago etc. The increase between 1964 and 1968 is mainly inter-industry. The second row has two item-groups for 1964 which were treated as similar imports for 1968, namely pulp and waste paper (£2·1 million) and synthetic fibres (£1·0 million), exclusion of which makes £6·5 million for 1964 inter-industry versus £6·8 million for 1968. Row (3) for non-metallic minerals is fairly comparable, with £3·6 million extra for 1968 inter-industry.

Bituminous coal, row (4), suggests inconsistent treatment in the I—O compilations for the two years, with inter-industry levels of £4·9 million for 1964 versus £0·6 million for 1968 and for the latter year some £3 million allocated to apparent surplus/deficit. There is no indication in the Census of Industrial Production how coal inputs to the industries should be subdivided between native anthracite, similar imports and bituminous coal (treated as complementary). A further problem arises in deciding how to subdivide "heating" inputs to service sectors between coal, peat, oil and electricity. There is a case to be made for treating all coal as a similar import and "forcing" coal into the services in sufficient amounts to leave just enough for known or firmly estimated inputs, the latter including households.

Row (5), petroleum, crude and refined, is consistently treated for the two years, the refined kinds being kerosene, tractor vaporising oil and aviation fuels. With the prospect of several new refineries there might be a case for classifying all refined petroleum as a similar import.

Row (6), chemicals not elsewhere specified, is fairly comparable for 1964 and 1968, the inter-industry part consisting of the basic organic and inorganic chemicals and diverse products unlike domestic items. Some £7 million increase is shown over the four years.

Crude metals and hardware, row (7), shows almost complete re-classification as similar, for 1968 final demand, as against £3·7 million for 1964. The inter-

industry part, after reduction by the £9·1 million shown in Table 3 for 1964 as being similar for 1968, gives some £6 million for 1964 comparable with £10 million for 1968.

Row (8) treats machinery, both electrical and other. The final demand figure for both years is roughly £30 million but Table 4 suggests reduction of 1964 level by some £4 million for comparability. The inter-industry level of £18·5 million should be reduced by about £8·5 million to give £10 million for 1964 versus £27·5 million for 1968 and accounts for parts and components for all kinds of machinery, other than vehicles.

Component parts of vehicles form the inter-industry share of row (9), which increased by £5·4 million between 1964 and 1968. The final demand section should include aircraft for both years but has some £2 million for 1964 relating to ships and land vehicles, treated as similar for 1968.

Other visible imports, row (10), has a collection of items not really comparable for the two years, due to import re-classification. Final demand 1968 is £12 million below that of 1964 whereas inter-industry allocation shows £13 million extra for 1968. There is little point in examining the details of the changes.

The big item of invisibles, row (11), for final demand is the expenditure on travel abroad, being £26 million for 1964 and £30 million for 1968. The inter-industry 1964 level of £9·7 million compares with £20·6 million for 1968, the growth being due to increased purchases by some productive sectors of goods and services not entering the merchandise or visible categories.

## SECTION 4: CHANGES in INTER-INDUSTRY DIRECT INPUT COEFFICIENTS BETWEEN 1964 and 1968

*Causes of Changes in Inter-Industry Coefficients*

For a fixed listing of similar imports, or for all imports treated as primary inputs, the main causes of changes in the inter-industry major coefficients based on reliable information (Census of Production) are the following:

(1) Changes in the levels of price relatives. Let $a^1{}_{ij}$ and $a^0{}_{ij}$ be the direct input coefficient at current prices for row $i$ of column $j$ in years 1 and $o$ respectively, with the $a_{ij}$ being the cost of an identical physical input of type $i$ required to produce an identical physical output of type $j$, costing £1 in year $o$. Also let $p_i$ and $p_j$ be the price index for year 1, based on unity for year $o$, of the domestic output sectors $i$ and $j$ respectively, each producing one homogeneous commodity. For this illustration the $a_{ij}$ coefficient is taken as containing only domestic output.

Then $a^1{}_{ij} = p_i a^0{}_{ij}/p_j$.
Unless $p_i = p_j$, $a^1{}_{ij}$ is not equal to $a^0{}_{ij}$.

(2) Changes in product mix, whereby in smallish tables subsectors such as animal slaughter and flour milling are included in the food sector. A relatively fast growth of the meat sub-sector will cause a growth in the livestock input relative to the crops input.

(3) Substitution of similar imports for domestic inputs, to be largely avoided if both are included in a joint coefficient but still causing some price distortion unless there is a one-to-one value substitution.

(4) Technical change, due to substitutions such as those of oil or electricity for coal, synthetic fibres for wool or cotton and so on.

(5) Changes arising from economies (or dis-economies) of scale in the production process. One kind of such change is a reduction in the factor inputs relative to the material inputs, per unit of output. Another is a reduction in the fuel and electricity coefficients due to more efficient use of these items in newer processes on a larger scale.

(6) Changes in methods of agriculture such as increased use of fertilisers to produce non-proportional increases in output of crops.

(7) Changes due to industrial development within a fairly aggregate sector of a smallish table. Suppose that imports of some textile yarns (classified as similar imports of the textile sector) for use in weaving by the textile sector are replaced by raw cotton etc. (complementary imports) which is now spun within the country. It is clear that the aggregate textile sector now has complementary imports where there were none before.

(8) There are effects of varying weather conditions on fixed inputs to agricultural crops. Increased amounts of coal and oil are needed to produce a given output of electricity when drought reduces the output of hydro-electric power stations. Labour strikes affect production processes. Such disturbances of a stochastic nature will cause either variations in output for given inputs or variations in inputs for a specified output. To allow for such variations requires considerable detail in a number of sectors together with input structure for various levels of the factor causing the variations e.g. a separate sector for hydro-electricity with input structure for various degrees of annual rainfall. Fairly obviously, detail of this kind is in the province of specialised studies of sub-sectors of the economy for special purposes.

*Some Solutions to the Problem of Changes in Coefficients*

Regarding changes in the levels of price relatives, provided that similar imports are shown separately and that valid price indices are available for the domestic and similar import rows, one can calculate the domestic and similar

import coefficients at constant prices. Up to some reasonable limit the more detail (by commodity) in which the deflation is done, the better will be the results, as the commodity mix may vary considerably within a fairly aggregate row as one moves from sector to sector along the row.

With a sufficiently detailed table there are less problems of product mix, as each sector has a fairly homogeneous output. By changing the weighting pattern of sub-sectors within a sector such as food one could considerably improve the expected input structure of the food sector. This, of course, requires estimation of the weighting to be given to the various sub-sectors.

After separate deflation to constant-price levels, the combined similar import plus domestic coefficient may be more stable than either of its components. This is especially true of the Irish economy which shows large inputs of similar imports, with these fairly readily available for substitution in conditions of failure of native grain crops etc. The stability is lessened by lack of perfect substitution even at constant prices, if one is using values rather than quantities, as is usual.

Technical change must be specifically allowed for, in predicting coefficients, as it is quite different from the substitution of similar imports for domestic items. It requires detailed study of past observed behaviour as well as possible consultation with technologists concerning future trends. Of relevance also is the level of detail of the structure to be projected. Coal, oil and electricity are likely to be part of three or more separate rows, even in fairly small tables (e.g. the Irish 33-sector table). Thus more oil for less coal will cause coefficient changes even at this level of aggregation. The substitution of synthetic fibres for wool and cotton, however, might occur within the textile sector, if that sector has a single aggregate row and column, and thus would be a similar import or even domestic substitution of newer products for older kinds, all within textiles.

*Comparison of 1964 and 1968 Direct Input Coefficients at Current Prices*

The coefficients in question are of the 33-sector model, with 1964 figures appearing in Table B2 of [4], and 1968 figures given below in Part 2 of Appendix 3. For the first 16 rows the coefficients contain the similar imports as listed in the transactions tables in question and thus rows (15) and (16), at least, have considerably extended lists of similar imports for 1968. All the other causes of change referred to above make differences between the two sets of figures, so that the area for valid comparison is rather limited.

Table 5 shows the frequency distribution of the numerical value of the changes, classified by the numerical values of the 1964 coefficients, for the 304 entries appearing at non-zero level in both years. A further three rows show the distribution of the 120 "unmatched" coefficients (having zero level in either year), for which the change is of the same magnitude as the coefficient. Finally, the distribution of changes for rows (15) and (16) and their combination are given, since these rows had the greatest effect of revised similar import

TABLE 5: *Changes 1964 to 1968 of Direct Input coefficients, by size of change and size of coefficient. 33-sector, Current Prices, similar imports included.*

| *Magnitude of 1964 Coefficient for 304 matched coefficients* | *Magnitude of Change 1964 to 1968* | | | | | | | | | | *Total Frequency* | *Mean Value of Magnitude of Change* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | .0000–.0005 | .0006–.0010 | .0011–.0020 | .0021–.0040 | .0041–.0070 | .0071–.0100 | .0101–.0200 | .0201–.0400 | .0401–.0700 | .0701–.1060 | | |
| .0000—.0050 | 31 | 13 | 20 | 6 | 4 | 3 | 4 | 3 | | | 84 | |
| .0051—.0100 | 9 | 4 | 8 | 12 | 13 | 3 | 1 | | | | 50 | 0.0043 |
| .0101—.0200 | 4 | 5 | 6 | 9 | 11 | 6 | 12 | | | 1 | 54 | |
| .0201—.0500 | 4 | 3 | 2 | 6 | 5 | 9 | 7 | 12 | | 2 | 50 | |
| .0501—.1000 | | | 4 | | 3 | 1 | 7 | 8 | 5 | 3 | 31 | |
| .1001—.2000 | | | | 3 | 3 | 2 | 4 | 7 | 7 | 2 | 28 | 0.0242 |
| .2001—.3000 | | | | | | | 1 | 2 | 1 | | 4 | |
| .3001—.5000 | | | | | | | 1 | 1 | 1 | | 3 | |
| (exceeding 0.02) | (4) | (3) | (6) | (9) | (11) | (12) | (20) | (30) | (14) | (7) | (116) | (0.0242) |
| Total for 304 matched coefficients | 48 | 25 | 40 | 36 | 39 | 24 | 37 | 33 | 14 | 8 | 304 | 0.0119 |
| 29 Unmatched coeffs. non-zero for 1964 | 5 | 3 | 3 | 1 | 7 | 1 | 3 | 3 | 2 | 1 | 29 | 0.0125 |
| 91 Unmatched coeffs. non-zero for 1968 | 28 | 13 | 13 | 8 | 7 | 6 | 11 | 4 | 1 | | 91 | 0.0049 |
| Total for 120 unmatched coefficients | 33 | 16 | 16 | 9 | 14 | 7 | 14 | 7 | 3 | 1 | 120 | 0.0067 |
| Combined total frequency | 81 | 41 | 56 | 45 | 53 | 31 | 51 | 40 | 17 | 9 | 424 | 0.0104 |
| (of which, row (15) | (3) | | (2) | (3) | (3) | | (2) | (4) | | (3) | (20) | (0.0217) |
| row (16)) | (4) | (1) | (2) | (4) | (5) | (1) | (7) | (4) | (1) | | (29) | (0.0116) |
| (rows (15) and (16)) | (7) | (1) | (4) | (7) | (8) | (1) | (9) | (8) | (1) | (3) | (49) | (0.0157) |

lists. The last column of Table 5 has the mean value of the size of the change for some rows and for row aggregates.

The 304 matched coefficients have an average size of change 0·0119, and the change increases with coefficient size, being 0·0043 on average for the 188 coefficients not exceeding 0·02 for 1964 and 0·0242 for the 116 coefficients exceeding 0·02 in 1964. These latter coefficients have 51 of the 55 changes exceeding 0·02 in size, and 21 of the 22 changes exceeding 0·04. By contrast the 188 coefficients not exceeding 0·02 in size have 184 of the 249 changes at or below the 0·02 level and 155 of the 188 changes at or below the 0·007 level.

The 120 unmatched coefficients, which have a change from zero identical with size, are relatively small, being on average 0·0067, with 109 not exceeding 0·02 and 88 at or below 0·007. The 29 of them which were non-zero for 1964 are much larger than those of 1968, with an average value 0·0125 and three of them exceeding 0·04, these latter three being textiles etc. input to hotels etc., metal etc. input to hotels etc. and artificial n.e.s. to domestic service/handicrafts. The columns in question are among those having less reliable sources of information on inputs and consequent possible relatively large variation in input structure from one year to another. Only one coefficient of the unmatched set of 91 for 1968 exceeded 0·04. This is for input of transport to fishing and here also poor data on input structure is the explanation.

Thus for all 424 matched and unmatched coefficients there were 66 changes exceeding 0·02 and 26 changes exceeding 0·04, 22 of the latter arising from matched coefficients.

Row (15) has an average change 0·0217, about twice that for the full set of 424, and 7 of its 20 coefficients have changes exceeding 0·02. It has the largest change, 0·0999, for the input to artificial sectors n.e.s. and a further change of size 0·0904, for the input to repair construction. Both these changes are in the form of increases and at least partly due to extra import content via revised 1968 similar import list. Row (16) has an average change 0·0116 which is about the same as that for all 424 coefficients. There are 5 of its 29 changes in the range 0·02 to 0·07. The one change exceeding 0·04 is of magnitude 0·0513 and concerns input of petroleum fuels to fishing, for which column the unreliable nature of the information on inputs has been mentioned above.

Thus rows (15) and (16) together account for only 12 of the 66 changes exceeding 0·02, 4 of the 26 changes exceeding 0·04 and 3 of the 9 changes exceeding 0·07. Since the effect of the changes in listings of similar imports can only be to increase these rows and correspondingly reduce the complementary import row, as against that of 1964, none of the other 31 rows of coefficients, whose changes are under discussion, could be forced to have compensatory changes. Some further major possible causes of change will be examined below.

*Comparison of 1964 and 1968 Direct Input Coefficients at 1968 Prices*

Table 6 shows the distribution of changes for the 116 matched coefficients

exceeding 0·02 in size, 1964, after recalculation of their 1964 values at estimated 1968 prices. Comparison of Table 6 with the corresponding section of Table 5 indicates what reduction in changes is effected by attempted elimination of changes in prices.

The process used to revalue the full set of 1964 coefficients at 1968 prices is described on pages 38–42 of [2]. Price indices for 1968 based on unity for 1964 were applied to each of the 16 rows of 1964 similar import direct input coefficients, 24 rows of complementary import, 9 rows of indirect tax coefficients. Adjustments for price changes were also made to the remaining primary input rows of subsidies, wages etc., profits, depreciation coefficients. The aggregate change in total primary direct input coefficient, including similar imports, was then used with the inter-industry matrix of purely domestic coefficients to compute consistent price indices for the 33 columns of input. After all coefficients had been revalued at the new price levels, the similar imports were added back to rows 1 to 16. The price indices used were the best available—some came from Census of Industrial Production, some from comparison of unit prices for large items of imports and some were reasonable guesses.

The surprising result emerging from comparison of Tables 5 and 6 is that the average size of change at 1968 prices, 0·0245, is slightly larger than that at current prices, 0·0242. Thus no reduction in magnitude of change is effected by elimination of price changes. For the three largest coefficients (exceeding 0·3) the 1964 actual and repriced values were as follows: livestock to food 0·4233 and 0·4250, textiles to textiles 0·3495 and 0·3291, textiles to clothing etc. 0·3137 and 0·2849. The first repricing reduced the change by a negligible amount and the latter two increased the change by 0·02 and 0·03 respectively. The conclusion may be drawn that with the available data on price changes the inflation or deflation of coefficients in order to improve comparability with those of another year looks unpromising and its theoretical improvement of structure of coefficients remains to be practically demonstrated.

*Detailed analysis of large changes in some large direct input coefficients, at current prices*

For a small number of the large coefficients the following discussion illustrates changes caused by shifts in relative gross output weights of sub-sectors within sectors, by changes in technology, by severe price changes, by changes in the listing of similar imports, and by unreliable or inconsistent data on inputs. A listing by rows is used, with the position in the row (the input column) quoted. The coefficients which include similar imports are rounded to 3 decimal places and the 1964 value given first.

*Row (1) Agricultural Livestock*

Column (1) Livestock, 0·188 and 0·248: after cancellation of plus and minus entries for the by-products which appear in the 92-sector 1964 framework, the input is almost completely accounted for by cattle from sub-sector cattle to sub-sector dairying, and milk, cows, calves and skim from dairying to cattle.

TABLE 6: *Changes 1964 to 1968 of 116 Direct Input Coefficients exceeding 0.02 for 1964, by size of change and size of coefficient. 33-sector, 1968 prices, similar imports included*

| *Magnitude of 1964 Coefficient at estimated 1968 prices* | *Magnitude of Change 1964 to 1968* | | | | | | | | | | *Total Frequency* | *Mean Value of Magnitude of Change* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | .0000–.0005 | .0006–.0010 | .0011–.0020 | .0021–.0040 | .0041–.0070 | .0071–.0100 | .0101–.0200 | .0201–.0400 | .0401–.0700 | .0701–.1060 | | |
| .0200—.0500 | 1 | 3 | 4 | 8 | 8 | 7 | 10 | 10 | | 2 | 53 | |
| .0501—.1000 | | | 2 | 2 | 1 | 1 | 7 | 7 | 5 | 3 | 28 | |
| .1001—.2000 | | | | | 5 | 3 | 2 | 10 | 5 | 3 | 28 | |
| .2001—.3000 | | | | | | | 2 | | 2 | 1 | 5 | |
| .3001—.4500 | | | | | | | | | 2 | | 2 | |
| Total frequency for 116 coefficients. | 1 | 3 | 6 | 10 | 14 | 11 | 21 | 27 | 14 | 9 | 116 | 0.0245 |

For 1968 the input coefficient for cattle to dairying is 0·202 and for dairying milk and by-products to cattle the input coefficient is 0·606. Corresponding 1964 coefficients, at 1964 prices, were 0·164 and 0·333. The huge increase in the second coefficient is due to apparently increased value of calves and cattle leaving the dairy herd, relative to sales of cattle. Thus, there is an apparent severe price inflation of the second coefficient between 1964 and 1968. The 1968 prices used for the numbers of cattle and calves involved in this coefficient may be excessive, or inconsistent with the prices used for 1964.

Column (7) Food, 0·423 and 0·493: animal slaughter plus milk products (excluding chocolate etc.) as a proportion of gross output of food, increased from 0·529 for 1964 to 0·580 for 1968. Thus the livestock input coefficient has extra relative weighting for 1968: there is a change in product mix.

Column (9) Textiles (ex. hosiery) 0·096 and 0·050: woollen and worsted decreased from 0·509 of gross output for 1964 to 0·441 for 1968. The input of wool, which forms the coefficient being considered, decreased from 0·190 of woollen and worsted sub-sector for 1964 to 0·112 for 1968. Thus both a change in relative weighting and an apparent switch from raw wool to either spun yarns or synthetic fibres is apparent.

*Row (7) Food*

Column (7) Food 0·170 and 0·121: the inputs to animal feed decreased from 0·481 for 1964 to 0·225 for 1968. This was compensated for by an input from crops increasing from 0·342 to 0·522. Thus there was a substitution of grain inputs for processed feeds in 1968, the increase in grain inputs not showing for food as a whole, which grew in current gross output value by one-third. The decrease, however, is noticeable, being of some 0·26 multiplied by a relative weight of one-tenth, compared with a relative weight of one-seventh for 1964.

*Row (12) Paper and Printing*

Column (12) Paper etc. 0·295 and 0·329: the weight of each of the two sub-sectors is about half the total for both years. For sub-sector paper, the input of paper and printing increased from 0·290 for 1964 to 0·391 for 1968. For sub-sector printing, a slight reduction, 0·299 to 0·278, occurred. The input of complementary imports to sub-sector paper decreased from 0·153 for 1964 to 0·026 for 1968, thus compensating for the increased domestic input. The redefinition of pulp and waste paper from being complementary for 1964 to being similar for 1968 (Table 3) gives an increase of 12 per cent in the similar import coefficient of sub-sector paper and a like decrease in the complementary coefficient. Thus the change is due to a change in definition of complementary imports.

*Row (13) Chemicals*

Column (13) Chemicals, 0·271 and 0·210: most of the reduction can be

explained by a reduction in the relative weight of fertiliser sub-sector from 0·405 to 0·355 combined with a reduction of the chemical input to fertilisers from 0·409 to 0·269; the complementary imports to the latter increased from 0·183 to 0·313. This indicates a change in technology, with less importance of imported fertilisers for blending and more importance of crude imported chemicals and minerals.

*Row (15) Metal/Engineering/Vehicles*

An artificial sub-sector includes all vehicle parts and tyres not used in new vehicle assembly, with retail garage margin added. This sector is very complex and expanded from £105·7 million gross output in 1964 to £152·7 million for 1968, both at current prices, i.e. by 45 per cent. Changes are, therefore, to be expected, through replacement of 1964 complementary imports by 1968 domestic products (and similar imports) and also by changes in relative weights of sub-sectors within sectors. One large change was as follows:

Column (18) Repair Construction, 0·084 and 0·175. The sector almost doubled over the 4-year interval, with the metal etc., users such as plumbing, heating, electrical installation (classified as sub-sector of repair) roughly doubling and having certain 1964 complementary imports now listed as domestic plus similar imports. The complementary import coefficient decreased from 0·024 to 0·001.

*Row (18) Repair Construction*

Column (17) New Construction, 0·102 and 0·200: this change is due to increasing importance of plumbing, heating and electrical installation sub-contract work in erection of new houses and offices. The hire of contractors' plant has grown considerably since 1964. The inputs to column (17) and both inputs and outputs of sector (18) involve considerable estimation and thus some of the apparent change might arise from inconsistent estimates.

*Row (25) Medical Services, Private*

Column (32) Government Services, 0·042 and 0·076: the change between 1964 and 1968 is due to increased payments by the Local Authority Medical Service to private institutions, dentists, specialists etc., as part of the overall Local Authority expenditure on medical care. This coefficient is directly based on Department of Local Government data supplied to the author.

## *CONCLUSIONS*

The changes in the import listings and the set of 120 unmatched transactions and derived coefficients go some way, but only part of the way, towards a full explanation of the changes in structure between 1964 and 1968. Allowance for distortion caused by changes in prices gave no improvement in general, but might improve structures more precisely comparable than those examined above. One important factor of change is the variation of gross outputs of sub-sectors as proportions of the sector aggregate gross output (total input). Another is technical change, examples of which appeared above for wool being replaced by textiles and processed feeds being replaced by grain. The final major source of change is inadequate information on inputs, which produces inconsistency through grossed-up results of small samples, and through revised opinions on inputs, where not even sample results are available.

Table 5 showed that there were only 66 matched coefficients exceeding 0·05 for 1964, which is only one-fifth of the full 304 matched set. Coefficient size is one measure of the importance of an entry in a table of transactions, but a more valid measure is the size of the transaction itself. For 1968, Part 1 of Appendix 3 shows 53 transactions exceeding £4·5 million each, yet these account for £973 million which is 79 per cent of the total inter-industry transaction of £1,226 million and involving 395 transactions in all. It therefore follows that at the 33-sector level only two or three transactions per column (say 100 transactions in all) contain up to 90 per cent of the value of inter-industry transactions and it is these which merit the major part of the work of compilation.

The question of how to define similar imports remains open, any given list being to some extent subjective. If one is interested only in a particular year, then there is much to be said for keeping all imports as primary inputs. For planning exercises or model-building which is outside the scope of this essay, there is a strong case for including the similar imports with domestic transactions in the inter-industry part of the table. This treatment permits substitution between similar imports and domestic products on the assumption of a one-to-one value exchange and enables one to experiment with various patterns of similar imports.

The compilation of the 1964 and 1968 input-output tables and the comparison and analysis of their structures set out above may provide some basis for better tables in the future.

# APPENDICES

APPENDIX 1.1: *Primary Input Components of Final Demand 1964, 33 Sectors, Producers' Prices. All Imports treated as Primary Inputs, £000*

| *Type of Primary Input* | *Personal Expenditure including Tourism* | *Exports and Re-Exports except Tourism* | *Net Government Current Expenditure* | *Changes in Stocks and Apparent Surplus/ Deficit* | *Gross Fixed Capital Formation* | *Total Final Demand* |
|---|---|---|---|---|---|---|
| Similar imports: | | | | | | |
| via intermediate | 50,708 | 30,662 | 4,179 | 2,216 | 14,994 | 102,759 |
| direct | 34,155 | 2,374 | 66 | 1,875 | 7,410 | 45,880 |
| Complementary imports: | | | | | | |
| via intermediate | 59,197 | 35,723 | 5,310 | 1,588 | 23,455 | 125,273 |
| direct | 57,002 | 9,836 | −391 | 4,232 | 34,184 | 104,863 |
| Indirect taxes: | | | | | | |
| via intermediate | 35,736 | 14,188 | 3,115 | 215 | 4,651 | 57,905 |
| direct | 94,208 | 933 | nil | 752 | 300 | 96,193 |
| Less subsidies: | | | | | | |
| via intermediate | −9,390 | −6,296 | −164 | −345 | −111 | −16,306 |
| direct | −13,106 | −4,351 | nil | nil | nil | −17,457 |
| Wages/pensions etc.: | | | | | | |
| via intermediate | 206,291 | 65,932 | 90,894 | 6,587 | 66,096 | 435,800 |
| direct* | nil | 7,551 | nil | nil | nil | 7,551 |
| Profits: | | | | | | |
| via intermediate | 169,995 | 88,926 | 10,989 | 10,761 | 17,631 | 298,302 |
| direct* | nil | 56,672 | nil | −10,400 | nil | 46,272 |
| Depreciation: | | | | | | |
| via intermediate | 40,039 | 13,350 | 1,702 | 919 | 5,490 | 61,500 |
| direct | nil | nil | 3,700 | nil | nil | 3,700 |
| TOTAL | 724,835 | 315,500 | 119,400 | 18,400 | 174,100 | 1,352,235 |
| *Summary:* | | | | | | |
| Imports | 201,062 | 78,595 | 9,164 | 9,911 | 80,043 | 378,775 |
| Indirect taxes | 129,944 | 15,121 | 3,115 | 967 | 4,951 | 154,098 |
| Less subsidies | −22,496 | −10,647 | −164 | −345 | −111 | −33,763 |
| Wages etc. | 206,291 | 73,483 | 90,894 | 6,587 | 66,096 | 443,351 |
| Profits | 169,995 | 145,598 | 10,989 | 361 | 17,631 | 344,574 |
| Depreciation | 40,039 | 13,350 | 5,402 | 919 | 5,490 | 65,200 |
| TOTAL | 724,835 | 315,500 | 119,400 | 18,400 | 174,100 | 1,352,235 |
| *As Percentages of Column Totals:* | | | | | | |
| Imports | 27.74 | 24.91 | 7.67 | 53.86 | 45.98 | 28.01 |
| Indirect taxes | 17.93 | 4.79 | 2.61 | 5.26 | 2.84 | 11.40 |
| Less subsidies | −3.10 | −3.37 | −0.14 | −1.87 | −0.06 | −2.50 |
| Wages etc. | 28.46 | 23.29 | 76.13 | 35.80 | 37.96 | 32.79 |
| Profits | 23.45 | 46.15 | 9.20 | 1.96 | 10.13 | 25.48 |
| Depreciation | 5.52 | 4.23 | 4.52 | 4.99 | 3.15 | 4.82 |
| TOTAL | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

*Inflows (Invisible Exports) are shown gross. To obtain National Income it is necessary to deduct 851 for Wages etc. and 26,074 for Profits, to allow for Outflows (Invisible Imports), in £000 units.

APPENDIX 1.2: *Primary Input Components of Final Demand 1968, 33 Sectors, Producers' Prices. All Imports treated as Primary Inputs. £000*

| *Type of Primary Input* | *Personal Expenditure including Tourism* | *Exports and Re-Exports except Tourism* | *Net Government Current Expenditure* | *Changes in Stocks and Apparent Surplus/ Deficit* | *Gross Fixed Capital Formation* | *Total Final Demand* |
|---|---|---|---|---|---|---|
| Similar imports: | | | | | | |
| via intermediate | 78,333 | 61,137 | 9,911 | 1,106 | 34,053 | 184,540 |
| direct | 64,942 | 9,882 | nil | 6,401 | 29,589 | 110,814 |
| Complementary imports: | | | | | | |
| via intermediate | 66,001 | 77,539 | 5,993 | 813 | 24,074 | 174,420 |
| direct | 48,561 | 2,282 | 1,301 | 15,379 | 31,381 | 98,904 |
| Indirect taxes: | | | | | | |
| via intermediate | 58,326 | 19,486 | 3,731 | −76 | 6,212 | 87,679 |
| direct | 141,637 | 1,330 | nil | 1,282 | 5,492 | 149,741 |
| Less subsidies: | | | | | | |
| via intermediate | −17,876 | −14,499 | −371 | −889 | −353 | −33,988 |
| direct | −13,260 | −12,262 | nil | nil | nil | −25,522 |
| Wages/pensions etc.: | | | | | | |
| via intermediate | 274,856 | 123,457 | 123,106 | 1,148 | 93,082 | 615,649 |
| direct* | nil | 10,519 | nil | nil | nil | 10,519 |
| Profits: | | | | | | |
| via intermediate | 208,515 | 122,807 | 17,325 | 6,524 | 21,922 | 377,093 |
| direct* | nil | 75,349 | nil | −16,333 | nil | 59,016 |
| Depreciation: | | | | | | |
| via intermediate | 53,441 | 21,564 | 2,334 | 1,321 | 6,946 | 85,606 |
| direct | nil | nil | 5,500 | nil | nil | 5,500 |
| TOTAL | 963,476 | 498,591 | 168,830 | 16,676 | 252,398 | 1,899,971 |
| *Summary:* | | | | | | |
| Imports | 257,837 | 150,840 | 17,205 | 23,699 | 119,097 | 568,678 |
| Indirect taxes | 199,963 | 20,816 | 3,731 | 1,206 | 11,704 | 237,420 |
| Less subsidies | −31,136 | −26,761 | −371 | −889 | −353 | −59,510 |
| Wages etc. | 274,856 | 133,976 | 123,106 | 1,148 | 93,082 | 626,168 |
| Profits | 208,515 | 198,156 | 17,325 | −9,809 | 21,922 | 436,109 |
| Depreciation | 53,441 | 21,564 | 7,834 | 1,321 | 6,946 | 91,106 |
| TOTAL | 963,476 | 498,591 | 168,830 | 16,676 | 252,398 | 1,899,971 |
| *As Percentages of Column Totals:* | | | | | | |
| Imports | 26.76 | 30.25 | 10.19 | 142.11 | 47.19 | 29.93 |
| Indirect taxes | 20.75 | 4.18 | 2.21 | 7.23 | 4.64 | 12.50 |
| Less subsidies | −3.23 | −5.37 | −0.22 | −5.33 | −0.14 | −3.13 |
| Wages etc. | 28.53 | 26.87 | 72.92 | 6.88 | 36.88 | 32.96 |
| Profits | 21.64 | 39.74 | 10.26 | −58.82 | 8.69 | 22.95 |
| Depreciation | 5.55 | 4.32 | 4.64 | 7.92 | 2.75 | 4.80 |
| TOTAL | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

*Inflows (Invisible Exports) are shown gross. To obtain National Income it is necessary to deduct 923 for Wages etc. and 26,948 for Profits, to allow for Outflows (Invisible Imports), in £000 units.

APPENDIX 2.1: *Total Primary Input Requirements per £1 Unit of Final Demand 1964 and 1968, 33 Sectors, Producers' Prices. All Imports Treated as Primary Inputs*

| | | *Agricultural Livestock* (1) | *Agricultural Crops (ex. Peat)* (2) | *Forestry* (3) | *Fishing* (4) | *Solid Fuel* (5) | *Stone\|Otrel\|Gravel* (6) | *Food* (7) | *Drink\|Tobacco* (8) | *Textiles (ex. Hosiery)* (9) | *Clothing\|Hosiery\|Shoes\|Leather* (10) | *Wood\|Furniture* (11) | Sectors | *Paper\|Printing* (12) | *Chemicals* (13) | *Clay\|Cement\|Glass* (14) | *Metal\|Engineering\|Vehicles* (15) | *Other Manufact.* (16) | *New Construction* (17) | *Repair Construction* (18) | *Electricity\|Coal\|Water* (19) | *Trade Margin* (20) | *Transport* (21) | *Banking\|Insurance* (22) | Sectors | *Other Financial* (23) | *Communications* (24) | *Medical Services Private* (25) | *Education* (26) | *Rent of Dwellings* (27) | *Personal Services* (28) | *Hotel\|Catering Margin* (29) | *Sport* (30) | *Domestic Service\|Handicrafts* (31) | *Government Services* (32) | *Artificial Sectors n.e.s.* (33) | Sectors |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Similar imports | 1964 | .0808 | .1316 | .0445 | .0451 | .0159 | .0600 | .1689 | .0691 | .3146 | .3032 | .2644 | Sim. | .2189 | .1535 | .0503 | .0601 | .0390 | .1281 | .0777 | .0393 | .0178 | .0284 | .0206 | Sim. | .0453 | .0200 | .0877 | | .0305 | .0117 | .0810 | .0293 | .0064 | .0368 | .1259 | Sim. |
| | 1968 | .0654 | .1399 | .0374 | .0595 | .0302 | .0700 | .1712 | .0727 | .2939 | .3927 | .3191 | | .2159 | .2255 | .0868 | .1811 | .0611 | .1947 | .1717 | .0609 | .0393 | .0399 | .0146 | | .0342 | .0360 | .1475 | | .0397 | .0238 | .0504 | .0384 | | .0657 | .1966 | |
| Complementary imports | 1964 | .0329 | .0763 | .0545 | .0914 | .0233 | .1065 | .0835 | .2069 | .2025 | .1168 | .1188 | Comp. | .1259 | .3134 | .1884 | .4720 | .6050 | .1266 | .1061 | .1028 | .0440 | .2149 | .0574 | Comp. | .0347 | .0717 | .0546 | | .0521 | .0208 | .1131 | .0931 | .0097 | .0464 | .1907 | Comp. |
| | 1968 | .0316 | .0795 | .1130 | .0773 | .0349 | .0864 | .0855 | .2435 | .1601 | .0684 | .1031 | | .0732 | .2803 | .1533 | .3799 | .6456 | .0811 | .0693 | .0763 | .0474 | .2539 | .0196 | | .0514 | .0575 | .0363 | | .0372 | .0253 | .0483 | .1038 | | .0424 | .1751 | |
| (Total imports) | (1964) | (.1137) | (.2079) | (.0990) | (.1365) | (.0392) | (.1665) | (.2524) | (.2760) | (.5171) | (.4200) | (.3832) | (Imp.) | (.3448) | (.4669) | (.2387) | (.5321) | (.6440) | (.2547) | (.1838) | (.1421) | (.0618) | (.2433) | (.0780) | (Imp.) | (.0800) | (.0917) | (.1423) | | (.0826) | (.0325) | (.1941) | (.1224) | (.0161) | (.0832) | (.3166) | (Imp.) |
| | (1968) | (.0969) | (.2194) | (.1504) | (.1368) | (.0651) | (.1564) | (.2567) | (.3162) | (.4540) | (.4610) | (.4222) | | (.2891) | (.5058) | (.2401) | (.5610) | (.7067) | (.2758) | (.2410) | (.1372) | (.0866) | (.2939) | (.0341) | | (.0856) | (.0936) | (.1838) | | (.0769) | (.0490) | (.0987) | (.1422) | | (.1081) | (.3718) | |
| Indirect taxes | 1964 | .0455 | .1213 | .0143 | .0068 | .0169 | .0693 | .0585 | .0436 | .0237 | .0273 | .0155 | Tax | .0254 | .0338 | .0334 | .0704 | .0123 | .0286 | .0322 | .0208 | .0339 | .0639 | .0487 | Tax | .0905 | .0183 | .0058 | | .2810 | .0159 | .0625 | .1787 | .0082 | .0300 | .1617 | Tax |
| | 1968 | .0474 | .1157 | .0109 | .0151 | .0287 | .0339 | .0507 | .0351 | .0199 | .0178 | .0194 | | .0234 | .0272 | .0308 | .0580 | .0136 | .0258 | .0241 | .0176 | .1114 | .0640 | .0424 | | .0821 | .0239 | .0169 | | .3076 | .0166 | .0783 | .1951 | | .0264 | .0971 | |
| Less subsidies | 1964 | −.0304 | −.0797 | −.0011 | −.0002 | −.0007 | −.0019 | −.0622 | −.0065 | −.0021 | −.0030 | −.0009 | Sub. | −.0011 | −.0021 | −.0012 | −.0013 | −.0006 | −.0008 | −.0008 | −.0009 | −.0009 | −.0010 | −.0007 | Sub. | −.0006 | −.0003 | −.0002 | | −.0001 | −.0003 | −.0007 | −.0015 | −.0004 | −.0019 | −.0077 | Sub. |
| | 1968 | −.0349 | −.0869 | −.0010 | −.0005 | −.0019 | −.0033 | −.1021 | −.0110 | −.0032 | −.0055 | −.0025 | | −.0033 | −.0051 | −.0035 | −.0019 | −.0022 | −.0020 | −.0015 | −.0015 | −.0020 | −.0016 | −.0004 | | −.0010 | −.0008 | −.0005 | | −.0002 | −.0009 | −.0025 | −.0031 | | −.0032 | −.0162 | |
| Wages/pensions | 1964 | .1327 | .1635 | .8375 | .0834 | .4437 | .4962 | .2603 | .3585 | .2998 | .4024 | .3998 | Wage | .4367 | .2610 | .3894 | .2828 | .1696 | .5435 | .6739 | .3824 | .5076 | .4522 | .6006 | Wage | .3828 | .6731 | .5423 | .8004 | .0445 | .8304 | .4703 | .3174 | .8131 | .8180 | .3386 | Wage |
| | 1968 | .1548 | .1593 | .8023 | .1026 | .4348 | .3265 | .2688 | .4089 | .3610 | .3751 | .4077 | | .5049 | .2549 | .4351 | .2713 | .1531 | .5432 | .6210 | .4007 | .4982 | .4607 | .5250 | | .5516 | .6204 | .5044 | .7993 | .0361 | .7903 | .5488 | .3528 | .8414 | .7805 | .3545 | |
| Profits | 1964 | .7055 | .4451 | .0335 | .6379 | .4465 | .1785 | .4308 | .2459 | .1079 | .1107 | .1540 | Prof. | .1263 | .1815 | .2037 | .0783 | .1231 | .1359 | .0806 | .3050 | .3428 | .1374 | .2475 | Prof. | .4070 | .1147 | .3000 | .1996 | .3658 | .0917 | .2291 | .3441 | .1130 | .0564 | .1559 | Prof. |
| | 1968 | .6972 | .4422 | .0276 | .6129 | .4054 | .3797 | .4681 | .1843 | .1230 | .1103 | .1104 | | .1344 | .1687 | .2047 | .0816 | .0928 | .1211 | .0887 | .2926 | .2525 | .0952 | .3758 | | .2445 | .1473 | .2849 | .2007 | .3486 | .0949 | .2137 | .2638 | .0982 | .0725 | .1597 | |
| Depreciation | 1964 | .0330 | .1418 | .0168 | .1356 | .0543 | .0914 | .0602 | .0825 | .0536 | .0425 | .0484 | Depr. | .0680 | .0589 | .1361 | .0378 | .0517 | .0381 | .0303 | .1507 | .0546 | .1041 | .0259 | Depr. | .0403 | .1025 | .0097 | | .2263 | .0298 | .0448 | .0388 | .0501 | .0143 | .0350 | Depr. |
| | 1968 | .0385 | .1503 | .0098 | .1331 | .0679 | .1068 | .0577 | .0666 | .0453 | .0412 | .0428 | | .0514 | .0486 | .0928 | .0300 | .0359 | .0361 | .0267 | .1534 | .0532 | .0878 | .0231 | | .0372 | .1157 | .0106 | | .2310 | .0501 | .0629 | .0491 | .0604 | .0157 | .0331 | |
| TOTAL PRIMARY* | 1964 | 1.0000 | .9999 | 1.0000 | 1.0000 | .9999 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | .9999 | 1.0000 | PRIM. | 1.0001 | 1.0000 | 1.0001 | 1.0001 | 1.0001 | 1.0000 | 1.0000 | 1.0001 | .9998 | .9999 | 1.0000 | PRIM. | 1.0000 | 1.0000 | .9999 | 1.0000 | 1.0001 | 1.0000 | 1.0001 | .9999 | 1.0001 | 1.0000 | 1.0001 | PRIM. |
| | 1968 | .9999 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | .9999 | 1.0001 | 1.0000 | .9999 | 1.0000 | | .9999 | 1.0001 | 1.0000 | 1.0000 | .9999 | 1.0000 | 1.0000 | 1.0000 | .9999 | 1.0000 | 1.0000 | | 1.0000 | 1.0001 | 1.0001 | 1.0000 | 1.0000 | 1.0000 | .9999 | .9999 | 1.0000 | 1.0000 | 1.0000 | |

*The sum of the entries as calculated, in theory equal to unity.

APPENDIX 2.2: *Inter-Industry Inputs of Similar Imports Compared with Combined Similar Imports and Domestic Outputs, Inter-Industry, 1964 and 1968, 33 Sectors, Producers' Prices*

| Sector | | 1964 | | | 1968 | | |
|---|---|---|---|---|---|---|---|
| | | *(A) Similar Imports Inter-Industry* £000 | *(B) Total Inter-Industry Flow* £000 | *(A) as percentage of (B)* | *(A) Similar Imports Inter-Industry* £000 | *(B) Total Inter-Industry Flow* £000 | *(A) as percentage of (B)* |
| Ag. livestock | (1) | 13,519 | 152,680 | 8.9 | 11,365 | 246,367 | 4.6 |
| Ag. crops (ex. peat) | (2) | 10,733 | 68,334 | 15.7 | 14,841 | 89,356 | 16.6 |
| Forestry | (3) | 35 | 570 | 6.1 | nil | 533 | 0.0 |
| Fishing | (4) | 38 | 743 | 5.1 | 93 | 1,199 | 7.8 |
| Solid fuel | (5) | 538 | 5,101 | 10.5 | 931 | 9,056 | 10.3 |
| Stone, ores etc. | (6) | 228 | 7,843 | 2.9 | 224 | 10,091 | 2.2 |
| Food | (7) | 7,074 | 72,462 | 9.8 | 9,687 | 84,286 | 11.5 |
| Drink/tobacco | (8) | 258 | 3,751 | 6.9 | 177 | 4,429 | 4.0 |
| Textiles (ex. hos.) | (9) | 17,377 | 36,248 | 47.9 | 27,146 | 47,078 | 57.7 |
| Clothing etc. | (10) | 1,739 | 6,525 | 26.7 | 5,964 | 7,964 | 74.9 |
| Wood/furniture | (11) | 6,252 | 10,936 | 57.2 | 11,857 | 20,244 | 58.6 |
| Paper/printing | (12) | 10,202 | 27,110 | 37.6 | 16,650 | 47,254 | 35.2 |
| Chemicals | (13) | 11,683 | 30,157 | 38.7 | 22,226 | 48,785 | 45.6 |
| Clay etc. | (14) | 1,775 | 15,096 | 11.7 | 3,792 | 22,871 | 16.6 |
| Metal etc. | (15) | 13,832 | 48,814 | 28.3 | 43,490 | 98,238 | 44.3 |
| Other manufact. | (16) | 7,476 | 26,557 | 28.2 | 16,097 | 45,266 | 35.6 |
| TOTAL FOR SECTORS (1) to (16) | | 102,759 | 512,927 | 20.0 | 184,540 | 783,017 | 23.6 |

APPENDIX 2.3: *Direct flows of Similar Imports to Final Demand, 1964 and 1968, Producers' Prices, 33 sectors, £000*

| *Similar Imports* | | | *Personal Expenditure including Tourism* | *Exports and Re-Exports, except Tourism* | *Net Government Current Expenditure* | *Changes in Stocks and Apparent Surplus/ Deficit* | *Gross Fixed Capital Formation* | *Total Final Demand* |
|---|---|---|---|---|---|---|---|---|
| Ag. livestock | (1) | 1964 | 365 | 1,525 | | 1,071 | | 2,961 |
| | | 1968 | 120 | 5,161 | | 2,177 | | 7,458 |
| Ag. crops (ex. peat) | (2) | 1964 | 1,352 | | | −843 | | 509 |
| | | 1968 | 2,746 | 2 | | −101 | | 2,647 |
| Forestry | (3) | 1964 | 13 | | 66 | | 76 | 155 |
| | | 1968 | | | | | | Nil |
| Fishing | (4) | 1964 | 40 | | | | | 40 |
| | | 1968 | 149 | | | | | 149 |
| Solid fuel | (5) | 1964 | 110 | | | | | 110 |
| | | 1968 | 7 | 25 | | 128 | | 160 |
| Stone/ores etc. | (6) | 1964 | | | | −57 | | −57 |
| | | 1968 | | | | 236 | | 236 |
| Food | (7) | 1964 | 4,635 | | | −5 | | 4,630 |
| | | 1968 | 7,999 | 91 | | | | 8,090 |
| Drink/tobacco | (8) | 1964 | 2,344 | 219 | | 2 | | 2,565 |
| | | 1968 | 3,637 | 232 | | | | 3,869 |
| Textiles (ex. hos.) | (9) | 1964 | 5,829 | | | 603 | 320 | 6,752 |
| | | 1968 | 6,100 | 260 | | 1,300 | 720 | 8,380 |
| Clothing etc. | (10) | 1964 | 4,562 | 89 | | 9 | | 4,660 |
| | | 1968 | 10,030 | 119 | | 219 | | 10,368 |
| Wood/furniture | (11) | 1964 | 2,041 | 367 | | | 540 | 2,948 |
| | | 1968 | 1,279 | 89 | | 228 | 835 | 2,431 |
| Paper/printing | (12) | 1964 | 2,336 | 148 | | 134 | | 2,618 |
| | | 1968 | 6,873 | 306 | | 629 | | 7,808 |
| Chemicals | (13) | 1964 | 2,251 | | | 448 | | 2,699 |
| | | 1968 | 3,419 | 524 | | 227 | | 4,170 |
| Clay etc. | (14) | 1964 | 702 | | | −30 | 88 | 760 |
| | | 1968 | 1,130 | 43 | | 100 | 88 | 1,361 |
| Metal etc. | (15) | 1964 | 5,884 | | | 261 | 6,333 | 12,478 |
| | | 1968 | 9,813 | 2,157 | | 400 | 26,391 | 38,761 |
| Other manufacturing | (16) | 1964 | 1,691 | 26 | | 282 | 53 | 2,052 |
| | | 1968 | 11,640 | 873 | | 858 | 1,555 | 14,926 |
| | | | Pers. | Export | Govt. | Stocks | GFCF | FINAL |
| Total Similar Imports | | 1964 | 34,155 | 2,374 | 66 | 1,875 | 7,410 | 45,880 |
| | | 1968 | 64,942 | 9,882 | Nil | 6,401 | 29,589 | 110,814 |

APPENDIX 2.4: *Allocations of Complementary Imports, 1964 and 1968, 33 Sectors, Producers' Prices, £000*

| *Complementary Imports* | | | *Personal Expenditure including Tourism* | *Exports and Re-Exports except Tourism* | *Net Government Current Expenditure* | *Changes in Stocks and Apparent Surplus/Deficit* | *Gross Fixed Capital Formation* | *Total Final Demand* | *Total Inter-Industry* | *Total Flow* |
|---|---|---|---|---|---|---|---|---|---|---|
| Food/wines/raw tobacco | (1) | 1964 | 11,011 | 308 | | 1,394 | | 12,713 | 10,475 | 23,188 |
| | | 1968 | 11,179 | 442 | | 280 | | 11,901 | 17,233 | 29,134 |
| Oilseeds/rubber/raw textile fibres | (2) | 1964 | 2 | 93 | | 465 | | 560 | 9,657 | 10,217 |
| | | 1968 | | 18 | | 673 | | 691 | 6,779 | 7,470 |
| Non-metallic minerals | (3) | 1964 | 580 | 37 | | 828 | 204 | 1,649 | 4,006 | 5,655 |
| | | 1968 | | 6 | | 249 | 380 | 635 | 7,628 | 8,263 |
| Bituminous coal | (4) | 1964 | 2,789 | | | 60 | | 2,849 | 4,885 | 7,734 |
| | | 1968 | 3,672 | | | 3,000 | | 6,672 | 587 | 7,259 |
| Petroleum, crude and refined | (5) | 1964 | 773 | 20 | | −203 | | 590 | 13,642 | 14,232 |
| | | 1968 | 940 | | | 2,068 | | 3,008 | 19,755 | 22,763 |
| Chemicals n.e.s. | (6) | 1964 | 1,125 | 299 | | 393 | | 1,817 | 11,395 | 13,212 |
| | | 1968 | 500 | | | 1,611 | | 2,111 | 18,097 | 20,208 |
| Crude metals and hardware | (7) | 1964 | 1,567 | 155 | | 578 | 1,354 | 3,654 | 15,238 | 18,892 |
| | | 1968 | | | | 50 | | 50 | 9,729 | 9,779 |
| Machinery, electrical and non-electrical | (8) | 1964 | 3,269 | 810 | | 416 | 25,843 | 30,338 | 18,537 | 48,875 |
| | | 1968 | 559 | 483 | | −932 | 30,560 | 30,670 | 27,465 | 58,135 |
| Vehicles, unassembled and complete | (9) | 1964 | 638 | 61 | | 226 | 4,453 | 5,378 | 21,636 | 27,014 |
| | | 1968 | | | | 459 | 17 | 476 | 27,039 | 27,515 |
| Other visible imports | (10) | 1964 | 9,348 | 7,021 | | 75 | 2,330 | 18,774 | 6,098 | 24,872 |
| | | 1968 | 1,869 | | | 4,479 | 424 | 6,772 | 19,503 | 26,275 |
| Invisibles | (11) | 1964 | 25,900 | 1,032 | −391 | | | 26,541 | 9,704 | 36,245 |
| | | 1968 | 29,842 | 1,333 | 1,301 | 3,442 | | 35,918 | 20,605 | 56,523 |
| Total Complementary Imports | | 1964 | 57,002 | 9,836 | −391 | 4,232 | 34,184 | 104,863 | 125,273 | 230,136 |
| | | 1968 | 48,561 | 2,282 | 1,301 | 15,379 | 31,381 | 98,904 | 174,420 | 273,324 |

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| | | *Agricultural Livestock* | *Agricultural Crops (ex. Peat)* | *Forestry* | *Fishing* | *Solid Fuel* | *Stone/Ores/ Gravel* | *Food* | *Drink/ Tobacco* | *Textiles (ex. Hosiery)* | *Clothing/Hosiery/ Shoes/Leather* | *Wood/Furniture* | Sectors | *Paper/Printing* | *Chemicals* | *Clay/Cement/ Glass* | *Metal/Eng./ Vehicles* | *Other Manufacturing* | *New Construction* | *Repair Construction* | *Electricity/Gas/ Water* | *Trade Margin* | *Transport* | *Banking/Insurance* | Sectors | *Other Financial and Business Services* | *Communications* | *Medical Services, Private* | *Education* | *Rent of Dwellings* | *Personal Services* | *Hotels/Catering Margin* | *Sport* | *Domestic Services/ Handicrafts* | *Government Services* | *Artificial Sectors n.e.s.* | Sectors | *Total Inter* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | | |
| Agricultural livestock * | (1) | 80,285 | | | | | | 163,741 | | 2,590 | −1,063 | 7 | (1) | | | | | | | | | | | | (1) | 50 | | | | | | | | 757 | | (1) | 246,367 |
| Agricultural crops (except peat) | (2) | 39,355 | 4,934 | 13 | | | | 40,922 | 3,160 | | | | (2) | | | | | | | | | 271 | | | (2) | 10 | | | | | | | | 334 | | (2) | 89,356 |
| Forestry | (3) | | | | | | | | | | | 27 | (3) | 373 | | | | | | | | | | | (3) | | | | | | | 357 | | 133 | | (3) | 533 |
| Fishing | (4) | | | | | | | 899 | | | | | (4) | | | | | | | | | | | | (4) | | | | | | | | | 390 | | (4) | 1,199 |
| Solid Fuel | (5) | | | | | 1 | | 421 | 168 | 12 | 13 | 2 | (5) | 79 | 39 | 157 | 47 | 11 | 32 | 38 | 5,290 | 1,305 | | | (5) | | | | | | 23 | 341 | | | 1,077 | | (5) | 9,056 |
| Stone/ores/gravel | (6) | | 1,233 | 40 | | | 121 | 39 | | 12 | 12 | | (6) | | 73 | 2,168 | 28 | 19 | 4,160 | 2,177 | 9 | | | | (6) | | | | | | | | | | | (6) | 10,091 |
| Food | (7) | 36,322 | | | | | | 40,143 | 697 | | 3,281 | 106 | (7) | | 659 | | | 1 | | | | 235 | | | (7) | 39 | | | | | | 372 | | 2,431 | | (7) | 84,286 |
| Drink/tobacco | (8) | | | | | | | 344 | 4,065 | | | | (8) | | | | | | | | | | | | (8) | | | | | | | | | 20 | | (8) | 4,429 |
| Textiles (except hosiery) | (9) | | 400 | | 100 | | | | | 19,237 | 21,669 | 829 | (9) | 144 | 8 | 73 | 119 | 1,160 | 207 | 633 | | 1,288 | | | (9) | | 51 | 79 | | | 5 | | | | 272 | 804 | (9) | 47,078 |
| Clothing/hosiery etc. | (10) | | | | | | | | | | 7,328 | 21 | (10) | 13 | | | 49 | 6 | | | | 22 | | | (10) | | 116 | | | | | 71 | | | 338 | | (10) | 7,964 |
| Wood/furniture | (11) | | | | | 6 | 2 | | | | 72 | 6,306 | (11) | 61 | 49 | 75 | 819 | 549 | 8,037 | 274 | | | | | (11) | | | | | | | | | | 206 | 3,788 | (11) | 20,244 |
| | Sectors | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | Sectors | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | Sectors | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | Sectors | Inter |
| Paper/printing | (12) | | | | | 4 | | | | | 377 | 5 | (12) | 14,869 | | 483 | 94 | 377 | 93 | 22 | | 1,829 | 73 | 855 | (12) | 6,846 | 338 | | | 330 | 100 | 325 | 491 | | 1,621 | 18,208 | (12) | 47,234 |
| Chemicals | (13) | 1,600 | 20,613 | 58 | | | 224 | 2,604 | −25 | 24 | 61 | 491 | (13) | 686 | 10,853 | 74 | 1,185 | 37 | 742 | 1,161 | | 49 | | | (13) | 53 | | 3,761 | | 900 | 230 | | | 3,329 | 75 | (13) | 48,785 |
| Clay/cement/glass | (14) | | | 20 | | | 150 | | | 16 | 1 | 71 | (14) | | | 291 | 93 | | 13,744 | 503 | 17 | | | | (14) | | | | | 492 | | | | 20 | 3,938 | (14) | 22,871 |
| Metal/engineering/vehicles | (15) | 520 | 3,764 | 262 | 200 | 36 | 2 | | 9 | 628 | 934 | | (15) | 336 | 2 | 304 | 20,626 | 277 | 13,967 | 10,189 | 325 | | 8,955 | | (15) | 117 | 200 | | | 3,198 | | | 651 | | 935 | 31,801 | (15) | 98,238 |
| Other manufacturing | (16) | 560 | 1,461 | 80 | 400 | 218 | 424 | 1,501 | 326 | 321 | 1,723 | 455 | (16) | 523 | 173 | 1,229 | 7,416 | 1,169 | 1,990 | 1,328 | 3,588 | 2,678 | 1,200 | | (16) | 15 | 28 | 1,013 | | | 285 | 495 | 373 | | 1,406 | 12,888 | (16) | 45,266 |
| New construction | (17) | | | | | | | | | | | | (17) | | | | | | | | | | | | (17) | | | | | | | | | | | (17) | Nil |
| Repair construction | (18) | | | | | | 381 | | | | | | (18) | | | | | | 28,715 | 611 | | | 2,342 | 442 | (18) | 460 | 4,086 | | | 1,845 | | | | | 3,805 | | (18) | 42,687 |
| Electricity/gas/water | (19) | 1,152 | | | | 159 | 594 | 2,039 | 326 | 577 | 503 | 241 | (19) | 702 | 630 | 1,012 | 1,276 | 566 | 530 | 165 | 894 | 2,199 | 77 | 315 | (19) | 439 | 155 | | | | 296 | 269 | 339 | | 1,485 | | (19) | 16,940 |
| Trade margin | (20) | 5,370 | 7,270 | 40 | 200 | 221 | 131 | 1,728 | 161 | 360 | 346 | 42 | (20) | 163 | 109 | 368 | 214 | 56 | 5,460 | 1,918 | 753 | 1,248 | 791 | | (20) | 30 | 19 | 3,500 | | | 144 | 140 | 514 | | 540 | 15,927 | (20) | 48,624 |
| Transport | (21) | 1,450 | 2,000 | 49 | 200 | 289 | | | | | | | (21) | | | | 112 | | 1,780 | 2,720 | 82 | 6,410 | 956 | 1,244 | (21) | 2,015 | 1,508 | | | | | 269 | 238 | | 2,950 | 4,000 | (21) | 28,272 |
| Banking/insurance | (22) | 1,458 | 400 | | 50 | 86 | | | | | | | (22) | | | | 41 | | | | 122 | 2,882 | 873 | 1,068 | (22) | 1,205 | 21 | | | | | 269 | 201 | | 327 | 29,654 | (22) | 38,657 |
| | Sectors | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | Sectors | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | Sectors | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | Sectors | Inter |
| Other financial | (23) | 4,774 | 100 | | 95 | 163 | | 2,324 | | | | | (23) | | | | 580 | | | | 225 | 5,694 | 654 | 7,623 | (23) | 8,961 | 96 | | | | 120 | 481 | 721 | | 2,414 | 15,782 | (23) | 50,807 |
| Communications | (24) | 400 | 100 | | 50 | 12 | | | | | | | (24) | | | | 60 | | | | 22 | 2,674 | 164 | 1,338 | (24) | 5,189 | 74 | | | | 120 | 524 | 857 | | 2,390 | 6,736 | (24) | 20,710 |
| Medical services, private | (25) | | | | | | | | | | | | (25) | | | | | | | | | | | | (25) | | | | | | | | | 9,607 | | (25) | 9,607 |
| Education | (26) | | | | | | | | | | | | (26) | | | | | | | | | | | | (26) | | | | | | | | | 81 | 4,011 | (26) | 4,092 |
| Rent of dwellings | (27) | | | | | | | | | | | | (27) | | | | | | | | | | | | (27) | | | | | | | | | 250 | 1,500 | (27) | 1,750 |
| Personal services | (28) | | | | | | | | | | | | (28) | | | | | | | | | 11 | | | (28) | 10 | | | | | 410 | 729 | | 178 | | (28) | 1,338 |
| Hotel/catering | (29) | | | | | | | | | | | | (29) | | | | | | | | | 51 | | | (29) | 121 | | | | | | | | 2,960 | | (29) | 3,132 |
| Sport | (30) | | | | | | | | | | | | (30) | | | | | | | | | | | | (30) | 90 | 903 | | | | | 42 | | | | (30) | 1,035 |
| Domestic service/handicrafts | (31) | | | | | | | | | | | | (31) | | | | | | | | | 62 | | | (31) | 4 | 20 | | | | | | 26 | | | | (31) | 91 |
| Government services | (32) | | | | | | | | | | | | (32) | | | | | | | | | | 114 | | (32) | | 65 | | | | | | | | | | | (32) | 5,363 |
| Artificial sectors n.e.s. | (33) | 43 | | 37 | | 1,635 | 3,783 | 34,347 | 11,075 | 7,189 | 9,543 | 2,395 | (33) | 6,982 | 12,677 | 5,042 | 16,019 | 9,147 | 9,186 | 3,481 | 2,862 | 19,819 | 4,461 | 494 | (33) | 1,487 | 592 | | | | 1,132 | 2,419 | 988 | | 184 | 5,000 | (33) | 170,124 |
| TOTAL INTER | | 173,289 | 42,275 | 599 | 1,295 | 2,830 | 5,812 | 291,052 | 20,436 | 30,441 | 44,494 | 11,932 | Inter | 24,931 | 25,272 | 14,104 | 49,272 | 13,020 | 88,550 | 25,198 | 14,189 | 48,221 | 21,166 | 13,379 | Inter | 27,141 | 8,272 | 8,353 | Nil | 7,626 | 2,865 | 6,374 | 6,128 | Nil | 43,639 | 154,112 | Inter | 1,226,267 |
| | Sectors | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | Sectors | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | Sectors | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | Sectors | Inter |
| Complementary imports | | | 216 | 155 | | 30 | 803 | 10,601 | 8,812 | 4,973 | 1,328 | 1,013 | Imports | 776 | 11,316 | 2,341 | 51,337 | 43,675 | 1,688 | 52 | 849 | 1,199 | 17,421 | | Imports | 1,583 | 777 | 188 | | 1,513 | 165 | 1,613 | | | 1,282 | 8,714 | Imports | 174,420 |
| Indirect taxes | | 4,087 | 8,838 | | | 207 | 242 | 747 | 124 | 35 | 57 | 63 | Taxes | 88 | 45 | 182 | 7,030 | 26 | 504 | 307 | 156 | 16,771 | 4,413 | 1,318 | Taxes | 4,656 | 276 | | | 21,211 | 221 | 1,025 | 4,317 | | 1,561 | 9,172 | Taxes | 87,679 |
| Less subsidies | | −1,626 | −7,750 | | | | | −22,062 | | | | | Subs. | | | | | | | | | | | | Subs. | | | | | | | | | | | Subs. | −33,988 |
| Wages/pensions | | 14,604 | 4,300 | 2,184 | | 5,504 | 4,299 | 35,607 | 13,829 | 11,482 | 20,052 | 5,850 | Wages | 14,651 | 7,457 | 8,368 | 33,094 | 7,002 | 44,169 | 29,883 | 12,327 | 69,878 | 33,576 | 19,881 | Wages | 26,393 | 15,055 | 10,661 | 32,736 | | 16,950 | 6,981 | 5,970 | 22,276 | 80,630 | −2,550 | Wages | 615,649 |
| Profits | | 133,257 | 34,661 | | 2,400 | 5,642 | 6,409 | 11,183 | 4,865 | 3,330 | 4,828 | 1,323 | Profits | 3,289 | 5,254 | 3,381 | 8,451 | 4,802 | 6,903 | 2,290 | 9,022 | 36,900 | 5,728 | 16,464 | Profits | 13,002 | 3,575 | 6,108 | 8,222 | 23,600 | 1,730 | 2,728 | 5,146 | 2,600 | | | Profits | 377,093 |
| Depreciation | | 629 | 11,894 | | 500 | 894 | 1,800 | 5,184 | 2,127 | 1,456 | 2,111 | 587 | Depr. | 1,438 | 2,298 | 1,896 | 3,476 | 2,099 | 1,768 | 580 | 5,755 | 7,100 | 7,090 | 500 | Depr. | 1,100 | 3,233 | | | 15,900 | 1,000 | 800 | 800 | 1,600 | | | Depr. | 85,606 |
| TOTAL PRIMARY | | 150,951 | 52,159 | 2,339 | 2,900 | 12,277 | 13,553 | 41,260 | 29,757 | 21,276 | 28,376 | 8,827 | Prim. | 20,242 | 26,370 | 16,168 | 103,388 | 57,604 | 55,032 | 33,112 | 28,109 | 131,848 | 68,228 | 38,163 | Prim. | 46,734 | 22,916 | 16,957 | 40,958 | 62,224 | 20,066 | 11,534 | 17,846 | 26,476 | 83,473 | 15,336 | Prim. | 1,306,459 |
| TOTAL INPUT | | 324,240 | 94,434 | 2,938 | 4,195 | 15,107 | 19,365 | 332,312 | 50,193 | 51,717 | 72,870 | 20,759 | Total | 45,173 | 51,642 | 30,272 | 152,660 | 70,624 | 143,582 | 58,310 | 42,298 | 180,069 | 89,394 | 51,542 | Total | 73,875 | 31,188 | 25,310 | 40,958 | 69,850 | 22,931 | 17,908 | 23,974 | 26,476 | 127,112 | 169,448 | Total | 2,532,726 |
| | Sectors | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | Sectors | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | Sectors | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | Sectors | Inter |

*Rows (1) to (16) contain Similar Imports.

| | | *Total Inter* | *Personal Expend. including Tourism* | *Merchandise Exports and Re-Exports* | *Invisible Exports and Re-Exports except Tourism* | *Central Govt. Current Expend.* | *Local Govt. Current Expend.* | *Stock Changes as for National Accounts* | *Apparent Surplus/ Deficit* | Sectors | *Gross Fixed Capital Formation* | *Total Final* | *Total Flow* | *Merchandise Imports* | *Invisible Imports* | *Domestic Flow* | Sectors |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Agricultural livestock | * (1) | 246,367 | 35,728 | 54,966 | | | | 4,946 | 1,056 | (1) | | 96,696 | 343,063 | 18,823 | | 324,240 | (1) |
| Agricultural crops (except peat) | (2) | 89,356 | 15,272 | 1,761 | | | | 2,828 | 2,705 | (2) | | 22,566 | 111,922 | 17,488 | | 94,434 | (2) |
| Forestry | (3) | 533 | | | | 626 | | | | (3) | 1,779 | 2,405 | 2,938 | Nil | | 2,938 | (3) |
| Fishing | (4) | 1,199 | 1,915 | 1,323 | | | | | | (4) | | 3,238 | 4,437 | 242 | | 4,195 | (4) |
| Solid fuel | (5) | 9,056 | 5,703 | 708 | | | | 731 | | (5) | | 7,142 | 16,198 | 1,091 | | 15,107 | (5) |
| Stone/ores/gravel | (6) | 10,091 | | 9,270 | | | | 1,364 | −900 | (6) | | 9,734 | 19,825 | 460 | | 19,365 | (6) |
| Food | (7) | 84,286 | 147,213 | 113,676 | 300 | | | 4,929 | −315 | (7) | | 265,803 | 350,089 | 17,777 | | 332,312 | (7) |
| Drink/tobacco | (8) | 4,429 | 37,041 | 12,162 | | | | 607 | | (8) | | 49,810 | 54,239 | 4,046 | | 50,193 | (8) |
| Textiles (except hosiery) | (9) | 47,078 | 18,376 | 17,644 | | | | 2,651 | −211 | (9) | 1,705 | 40,165 | 87,243 | 35,526 | | 51,717 | (9) |
| Clothing/hosiery/shoes/leather | (10) | 7,964 | 51,198 | 28,492 | 300 | | | 1,248 | | (10) | | 81,238 | 89,202 | 16,332 | | 72,870 | (10) |
| Wood/furniture | (11) | 20,244 | 7,806 | 3,045 | | | | 940 | | (11) | 3,012 | 14,803 | 35,047 | 14,288 | | 20,759 | (11) |
| | Sectors | Inter | Personal | Merchandise | Invisible | Central | Local | Stock | Surplus | Sectors | Gfcf | Final | Flow | Merchandise | Invisible | Domestic | Sectors |
| Paper/printing | (12) | 47,254 | 13,004 | 7,290 | 100 | | | 1,183 | 800 | (12) | | 22,377 | 69,631 | 24,458 | | 45,173 | (12) |
| Chemicals | (13) | 48,785 | 13,388 | 13,611 | | | | 2,254 | | (13) | | 29,253 | 78,038 | 26,396 | | 51,642 | (13) |
| Clay/cement/glass | (14) | 22,871 | 4,798 | 6,390 | | | | 584 | 160 | (14) | 622 | 12,554 | 35,425 | 5,153 | | 30,272 | (14) |
| Metal/engineering/vehicles | (15) | 98,238 | 42,841 | 39,187 | | | | 2,373 | 164 | (15) | 52,108 | 136,673 | 234,911 | 82,251 | | 152,660 | (15) |
| Other manufacturing | (16) | 45,266 | 13,115 | 38,645 | 809 | | | 1,445 | 77 | (16) | 2,290 | 56,381 | 101,647 | 31,023 | | 70,624 | (16) |
| New construction | (17) | Nil | | | | | | | | (17) | 143,582 | 143,582 | 143,582 | | | 143,582 | (17) |
| Repair construction | (18) | 42,687 | | | | 1,691 | 13,932 | | | (18) | | 15,623 | 58,310 | | | 58,310 | (18) |
| Electricity/gas/water | (19) | 16,940 | 25,308 | | 50 | | | | | (19) | | 25,358 | 42,298 | | | 42,298 | (19) |
| Trade margin | (20) | 48,624 | 125,611 | | 100 | | | −23 | | (20) | 5,757 | 131,445 | 180,069 | | | 180,069 | (20) |
| Transport | (21) | 28,272 | 19,869 | 6,000 | 29,853 | | | | | (21) | 5,400 | 61,122 | 89,394 | | | 89,394 | (21) |
| Banking/insurance | (22) | 38,657 | 12,835 | | 50 | | | | | (22) | | 12,885 | 51,542 | | | 51,542 | (22) |
| | Sectors | Inter | Personal | Merchandise | Invisible | Central | Local | Stock | Surplus | Sectors | Gfcf | Final | Flow | Merchandise | Invisible | Domestic | Sectors |
| Other financial | (23) | 50,807 | 5,240 | 10,965 | 300 | 6,563 | | | | (23) | | 23,068 | 73,875 | | | 73,875 | (23) |
| Communications | (24) | 20,710 | 10,200 | | 278 | | | | | (24) | | 10,478 | 31,188 | | | 31,188 | (24) |
| Medical services, private | (25) | 9,607 | 15,703 | | | | | | | (25) | | 15,703 | 25,310 | | | 25,310 | (25) |
| Education | (26) | 4,092 | 3,906 | | | 26,160 | 6,800 | | | (26) | | 36,866 | 40,958 | | | 40,958 | (26) |
| Rent of dwellings | (27) | 1,750 | 68,100 | | | | | | | (27) | | 68,100 | 69,850 | | | 69,850 | (27) |
| Personal services | (28) | 1,338 | 21,493 | | 100 | | | | | (28) | | 21,593 | 22,931 | | | 22,931 | (28) |
| Hotel/catering | (29) | 3,132 | 14,476 | | 300 | | | | | (29) | | 14,776 | 17,908 | | | 17,908 | (29) |
| Sport | (30) | 1,035 | 16,109 | 1,016 | 5,814 | | | | | (30) | | 22,939 | 23,974 | | | 23,974 | (30) |
| Domestic service/handicrafts | (31) | 112 | 26,364 | | | | | | | (31) | | 26,364 | 26,476 | | | 26,476 | (31) |
| Government services | (32) | 5,363 | 13,115 | | 2,377 | 55,099 | 51,158 | | | (32) | | 121,749 | 127,112 | | | 127,112 | (32) |
| Artificial sectors n.e.s. | (33) | 170,124 | 811 | 2,345 | 12,146 | | | 897 | −16,145 | (33) | −730 | −676 | 169,448 | | | 169,448 | (33) |
| TOTAL INTER | | 1,226,267 | 786,538 | 368,496 | 52,877 | 90,139 | 71,890 | 28,957 | −12,609 | Inter | 215,525 | 1,601,813 | 2,828,080 | 295,354 | Nil | 2,532,726 | Inter |
| | Sectors | Inter | Personal | Merchandise | Invisible | Central | Local | Stock | Surplus | Sectors | Gfcf | Final | Flow | Merchandise | Invisible | Domestic | Sectors |
| Complementary imports | | 174,420 | 48,561 | 949 | 1,333 | 1,301 | | 2,770 | 12,609 | Imp. | 31,381 | 98,904 | 273,324 | 216,801 | 56,523 | | Imp. |
| Indirect taxes | | 87,679 | 141,637 | | 1,330 | | | 1,282 | | Tax | 5,492 | 149,741 | 237,420 | | | 237,420 | Tax |
| Less subsidies | | −33,988 | −13,260 | −12,262 | | | | | | Subs. | | −25,522 | −59,510 | | | −59,510 | Subs. |
| Wages/pensions | | 615,649 | | | 10,519 | | | | | Wage | | 10,519 | 626,168 | | 923 | 625,245 | Wage |
| Profits | | 377,093 | | | 75,349 | | | −16,333 | | Prof. | | 59,016 | 436,109 | | 26,948 | 409,161 | Prof. |
| Depreciation | | 85,606 | | | | 2,300 | 3,200 | | | Depr. | | 5,500 | 91,106 | | | 91,106 | Depr. |
| TOTAL PRIMARY | | 1,306,459 | 176,938 | −11,313 | 88,531 | 3,601 | 3,200 | −12,281 | 12,609 | Prim. | 36,873 | 298,158 | 1,604,617 | 216,801 | 84,394 | 1,303,422 | Prim. |
| TOTAL INPUT | | 2,532,726 | 963,476 | 357,183 | 141,408 | 93,740 | 75,090 | 16,676 | Nil | Total | 252,398 | 1,899,971 | 4,432,697 | 512,155 | 84,394 | 3,836,148 | Total |
| | Sectors | Inter | Personal | Merchandise | Invisible | Central | Local | Stock | Surplus | Sectors | Gfcf | Final | Flow | Merchandise | Invisible | Domestic | |

*Rows (1) to (16) contain Similar Imports.

| | | *Agricultural Livestock* | *Agricultural Crops (except Peat)* | *Forestry* | *Fishing* | *Solid Fuel* | *Stone/Ores/Gravel* | *Food* | *Drink/Tobacco* | *Textiles (except Hosiery)* | *Clothing/Hosiery/Shoes/Leather* | *Wood/Furniture* | *Sectors* | *Paper/Printing* | *Chemicals* | *Clay/Cement/Glass* | *Metal/Engineering/Vehicles* | *Other Manufacturing* | *New Construction* | *Repair Construction* | *Electricity/Gas/Water* | *Trade Margin* | *Transport* | *Banking/Insurance* | *Sectors* | *Other Financial and Business Services* | *Communications* | *Medical Services Private* | *Education* | *Rent of Dwellings* | *Personal Services* | *Hotel/Catering Margin* | *Sport* | *Domestic Service/Handicrafts* | *Government Services* | *Artificial Sectors n.e.s.* | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | |
| Agricultural livestock | * (1) | .2476 | | | | | | .4927 | | .0501 | −.0146 | .0003 | (1) | | | | | | | | | | | | (1) | .0007 | | | | | | | | .0060 | | (1) |
| Agricultural crops (except peat) | (2) | .1214 | .0522 | .0044 | | | | .1231 | .0630 | | | | (2) | | | | | | | | | | .0030 | | (2) | .0001 | | | | | | .0149 | | .0026 | | (2) |
| Forestry | (3) | | | | | | | | | | | .0013 | (3) | .0083 | | | | | | | | | | | (3) | | | | | | | | | .0010 | | (3) |
| Fishing | (4) | | | | | | | .0027 | | | | | (4) | | | | | | | | | | | | (4) | | | | | | | | | .0024 | | (4) |
| Solid fuel | (5) | | | | | .0001 | | .0013 | .0033 | .0002 | .0002 | .0001 | (5) | .0017 | .0008 | .0052 | .0003 | .0002 | .0002 | .0007 | .1251 | .0072 | | | (5) | | | | | | .0010 | .0190 | | | .0085 | | (5) |
| Stone/ores/gravel | (6) | | .0131 | .0136 | | | .0062 | .0001 | | .0002 | .0002 | | (6) | | .0014 | .0716 | .0002 | .0003 | .0290 | .0373 | .0002 | | | | (6) | | | | | | | | | | | (6) |
| Food | (7) | .1120 | | | | | | .1208 | .0139 | | .0450 | .0051 | (7) | | .0128 | | | | | | | | .0026 | | (7) | .0005 | | | | | | .0155 | | .0191 | | (7) |
| Drink/tobacco | (8) | | | | | | | .0010 | .0810 | | | | (8) | | | | | | | | | | | | (8) | | | | | | | | | .0002 | | (8) |
| Textiles (except hosiery) | (9) | | .0042 | | .0238 | | | | | .3720 | .2974 | .0399 | (9) | .0032 | .0002 | .0024 | .0008 | .0164 | .0014 | .0109 | | .0072 | | | (9) | | .0016 | .0031 | | | .0002 | | | .0021 | .0047 | (9) |
| Clothing/hosiery/shoes/leather | (10) | | | | | | | | | | .1006 | .0010 | (10) | .0003 | | | .0003 | .0001 | | | | .0001 | | | (10) | | .0037 | | | | .0040 | | | .0027 | | (10) |
| Wood/furniture | (11) | | | | | .0004 | .0001 | | | | .0010 | .3038 | (11) | .0013 | .0009 | .0025 | .0054 | .0078 | .0560 | .0047 | | | | | (11) | | | | | | | | | .0016 | .0224 | (11) |
| | Sectors | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | Sectors | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | Sectors | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | Sectors |
| Paper/printing | (12) | | | | | .0003 | | | | .0096 | .0018 | .0052 | (12) | .3292 | | | .0096 | .0006 | .0003 | | | .0102 | .0008 | .0166 | (12) | .0927 | .0108 | | | .0047 | .0044 | .0181 | .0205 | | .0128 | .1075 | (12) |
| Chemicals | (13) | .0049 | .2183 | .0197 | | | .0116 | .0078 | −.0005 | .0005 | .0008 | .0237 | (13) | .0152 | .2102 | .0024 | .0078 | .0005 | .0052 | .0199 | | .0003 | | | (13) | .0007 | | .1486 | | .0129 | .0100 | | | .0262 | .0004 | (13) |
| Clay/cement/glass | (14) | | .0068 | | | | .0077 | | | .0003 | | .0034 | (14) | | | .1094 | .0039 | | .0957 | .0086 | .0004 | | | | (14) | | | | | .0070 | | | | .0002 | .0232 | (14) |
| Metal/engineering/vehicles | (15) | .0016 | .0399 | .0892 | .0477 | .0024 | .0001 | | | .0002 | .0086 | .0450 | (15) | .0074 | | .0100 | .1351 | .0039 | .0973 | .1747 | .0077 | | .1002 | | (15) | .0016 | .0064 | | | .0458 | | .0272 | | .0074 | .1877 | (15) |
| Other manufacturing | (16) | .0017 | .0155 | .0272 | .0954 | .0144 | .0219 | .0045 | .0065 | .0062 | .0236 | .0219 | (16) | .0116 | .0034 | .0406 | .0486 | .0166 | .0139 | .0228 | .0848 | .0149 | .0134 | | (16) | .0002 | .0009 | .0400 | | | | .0124 | .0276 | .0156 | .0111 | .0761 | (16) |
| New construction | (17) | | | | | | | | | | | | (17) | | | | | | | | | | | | (17) | | | | | | | | | | | (17) |
| Repair construction | (18) | | | | | | .0197 | | | | | | (18) | | | | | | .2000 | .0105 | | | .0262 | .0086 | (18) | .0062 | .1310 | | | .0264 | | | | .0299 | | (18) |
| Electricity/gas/water | (19) | .0036 | | | | .0105 | .0307 | .0061 | .0065 | .0112 | .0069 | .0116 | (19) | .0155 | .0122 | .0334 | .0084 | .0080 | .0037 | .0028 | .0211 | .0122 | .0009 | .0061 | (19) | .0059 | .0050 | | | | .0129 | .0150 | .0141 | | .0117 | | (19) |
| Trade margin | (20) | .0166 | .0770 | .0136 | .0477 | .0146 | .0068 | .0052 | .0032 | .0070 | .0047 | .0020 | (20) | .0036 | .0021 | .0122 | .0014 | .0008 | .0380 | .0329 | .0178 | .0069 | .0088 | | (20) | .0004 | .0006 | .1383 | | .0123 | .0063 | .0078 | .0214 | | .0042 | .0940 | (20) |
| Transport | (21) | .0045 | .0212 | .0167 | .0477 | .0191 | | | | | | .0034 | (21) | | | | .0007 | | .0124 | .0466 | .0019 | .0356 | .0107 | .0241 | (21) | .0273 | .0484 | | | | | .0150 | .0099 | | .0232 | .0236 | (21) |
| Banking/insurance | (22) | .0045 | .0042 | .0119 | .0057 | | | | | | | | (22) | | | | .0003 | | | | .0029 | .0160 | .0098 | .0207 | (22) | .0163 | .0007 | | | | | .0150 | .0084 | | .0026 | .1750 | (22) |
| | Sectors | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | Sectors | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | Sectors | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | Sectors |
| Other financial | (23) | .0147 | .0011 | | .0226 | .0108 | | .0070 | | | | | (23) | | | | .0038 | | | | .0053 | .0516 | .0073 | .1479 | (23) | .1213 | .0031 | | | | .0052 | .0269 | .0301 | | .0190 | .0931 | (23) |
| Communications | (24) | .0012 | .0011 | | .0119 | .0008 | | | | | | | (24) | | | | .0004 | | | | .0005 | .0148 | .0018 | .0260 | (24) | .0702 | .0024 | | | | .0052 | .0293 | .0357 | | .0188 | .0398 | (24) |
| Medical services, private | (25) | | | | | | | | | | | | (25) | | | | | | | | | | | | (25) | | | | | | | | | .0756 | | (25) |
| Education | (26) | | | | | | | | | | | | (26) | | | | | | | | | | | | (26) | | | | | | | | | .0006 | .0237 | (26) |
| Rent of dwellings | (27) | | | | | | | | | | | | (27) | | | | | | | | | | | | (27) | | | | | | | | | .0020 | .0089 | (27) |
| Personal services | (28) | | | | | | | | | | | | (28) | | | | | | | | | .0001 | | | (28) | .0001 | | | | | .0179 | .0407 | | | .0014 | | (28) |
| Hotel/catering margin | (29) | | | | | | | | | | | | (29) | | | | | | | | | .0003 | | | (29) | .0016 | | | | | | | | | .0233 | | (29) |
| Sport | (30) | | | | | | | | | | | | (30) | | | | | | | | | | | | (30) | .0012 | .0290 | | | | | .0023 | | | | | (30) |
| Domestic service/handicrafts | (31) | | | | | | | | | | | | (31) | | | | | | | | | .0003 | | | (31) | .0001 | .0006 | | | | | | .0011 | | | | (31) |
| Government services | (32) | | | | | | | | | | | | (32) | | | | | | | | | | .0013 | | (32) | | .0021 | | | | | | | | .0014 | .0295 | (32) |
| Artificial sectors n.e.s. | (33) | .0001 | | .0126 | | .1082 | .1954 | .1034 | .2206 | .1390 | .1310 | .1154 | (33) | .1546 | .2455 | .1666 | .1049 | .1295 | .0640 | .0597 | .0677 | .1101 | .0499 | .0096 | (33) | .0201 | .0190 | | | | .0494 | .1351 | .0412 | | .0259 | | (33) |
| TOTAL INTER | | .5344 | .4478 | .2038 | .3087 | .1873 | .3002 | .8757 | .4071 | .5887 | .6106 | .5747 | Inter | .5519 | .4895 | .4659 | .3229 | .1844 | .6168 | .4321 | .3354 | .2678 | .2367 | .2596 | Inter. | .3672 | .2653 | .3300 | nil | .1091 | .1249 | .3558 | .2556 | nil | .3435 | .9096 | Inter. |
| | Sectors | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | Sectors | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | Sectors | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | Sectors |
| Complementary imports | | | .0023 | .0528 | | .0020 | .0415 | .0319 | .1756 | .0962 | .0182 | .0488 | Imp. | .0172 | .2191 | .0773 | .3363 | .6184 | .0118 | .0009 | .0201 | .0067 | .1949 | | Imp. | .0214 | .0249 | .0074 | | .0217 | .0072 | | .0673 | | .0101 | .0514 | Imp. |
| Indirect taxes | | .0126 | .0936 | | | .0137 | .0125 | .0022 | .0025 | .0007 | .0008 | .0030 | Tax | .0019 | .0009 | .0060 | .0461 | .0004 | .0035 | .0053 | .0037 | .0931 | .0494 | .0256 | Tax | .0630 | .0089 | | | .3037 | .0096 | .0572 | .1801 | | .0123 | .0541 | Tax |
| Less subsidies | | −.0050 | −.0821 | | | | | −.0664 | | | | | Subs. | | | | | | | | | | | | Subs. | | | | | | | | | | −.0150 | Subs. |
| Wages/pensions | | .0450 | .0455 | .7434 | | .3643 | .2220 | .1071 | .2755 | .2220 | .2752 | .2818 | Wage | .3243 | .1444 | .2764 | .2168 | .0991 | .3076 | .5125 | .2914 | .3881 | .3756 | .3857 | Wage | .3573 | .4827 | .4212 | .7993 | | .7392 | .3898 | .2490 | .8414 | .6343 | | Wage |
| Profits | | .4110 | .3670 | | .5721 | .3735 | .3310 | .0337 | .0969 | .0644 | .0663 | .0637 | Prof. | .0728 | .1017 | .1117 | .0554 | .0680 | .0481 | .0393 | .2133 | .2049 | .0641 | .3194 | Prof. | .1760 | .1146 | .2413 | .2007 | .3379 | .0754 | .1523 | .2146 | .0982 | | | Prof. |
| Depreciation | | .0019 | .1260 | | .1192 | .0592 | .0930 | .0156 | .0424 | .0282 | .0290 | .0278 | Depr. | .0318 | .0445 | .0626 | .0228 | .0297 | .0123 | .0099 | .1361 | .0394 | .0793 | .0097 | Depr. | .0149 | .1037 | | | .2276 | .0436 | .0447 | .0334 | .0604 | | | Depr. |
| TOTAL PRIMARY | | .4655 | .5523 | .7962 | .6913 | .8127 | .7000 | .1241 | .5929 | .4115 | .3895 | .4251 | Prim. | .4480 | .5106 | .5340 | .6774 | .8156 | .3833 | .5679 | .6646 | .7322 | .7633 | .7404 | Prim. | .6326 | .7348 | .6697 | 1.0000 | .8909 | .8750 | .6440 | .7444 | 1.0000 | .6567 | .0905 | Prim. |
| TOTAL INPUT | | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | TOTAL | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | TOTAL | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | 1.— | TOTAL |
| | Sectors | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | Sectors | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | Sectors | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | Sectors |

*Rows (1) to (16) contain Similar Imports.

APPENDIX 3.3: *33-Sector I-A Inverse (Interdependence Coefficients) 1968.*

| | | *Agricultural Livestock* | *Agricultural Crops (except Peat)* | *Forestry* | *Fishing* | *Solid Fuel* | *Stone/Ores/Gravel* | *Food* | *Drink/Tobacco* | *Textiles (except Hosiery)* | *Clothing/Hosiery/Shoes/Leather* | *Wood/Furniture* | *Sectors* | *Paper/Printing* | *Chemicals* | *Clay/Cement/Glass* | *Metal/Engineering/Vehicles* | *Other Manufacturing* | *New Construction* | *Repair Construction* | *Electricity/Gas/Water* | *Trade Margin* | *Transport* | *Banking/Insurance* | *Sectors* | *Other Financial and Business Services* | *Communications* | *Medical Services Private* | *Education* | *Rent of Dwellings* | *Personal Services* | *Hotel/Catering Margin* | *Sport* | *Domestic Service/Handicrafts* | *Government Services* | *Artificial Sectors n.e.s.* | *Sectors* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | |
| Agricultural, livestock * | (1) | 1.4512 | .0040 | .0006 | .0033 | .0004 | .0008 | .8144 | .0133 | .1164 | .0562 | .0145 | (1) | .0016 | .0141 | .0011 | .0008 | .0024 | .0020 | .0022 | .0005 | .0014 | .0026 | .0005 | (1) | .0021 | .0013 | .0027 | | .0003 | .0004 | .0009 | .0131 | | .0256 | .0027 | (1) |
| Agricultural, crops (ex. peat) | (2) | .2101 | 1.0564 | .0049 | .0007 | .0002 | .0003 | .2660 | .0766 | .0170 | .0157 | .0034 | (2) | .0005 | .0046 | .0003 | .0002 | .0004 | .0005 | .0006 | .0001 | .0004 | .0041 | .0003 | (2) | .0008 | .0010 | .0008 | | .0001 | .0001 | .0004 | .0200 | | .0096 | .0009 | (2) |
| Forestry | (3) | .0001 | .0002 | 1.0001 | .0001 | .0002 | .0004 | .0003 | .0006 | .0005 | .0005 | .0023 | (3) | .0128 | .0006 | .0005 | .0003 | .0003 | .0004 | .0002 | .0002 | .0004 | .0002 | .0005 | (3) | .0014 | .0002 | .0002 | | .0001 | .0002 | .0006 | .0004 | | .0014 | .0018 | (3) |
| Fishing | (4) | .0005 | | | 1.0000 | | | .0034 | .0001 | .0001 | .0002 | | (4) | | .0001 | | | | | | | | | | (4) | | | | | | | | .0001 | | .0024 | .0001 | (4) |
| Solid fuel | (5) | .0018 | .0020 | .0007 | .0009 | 1.0020 | .0049 | .0042 | .0057 | .0037 | .0032 | .0035 | (5) | .0066 | .0041 | .0120 | .0023 | .0018 | .0035 | .0024 | .1286 | .0095 | .0007 | .0013 | (5) | .0019 | .0013 | .0020 | | .0005 | .0031 | .0220 | .0026 | | .0113 | .0033 | (5) |
| Stone/ores/gravel | (6) | .0031 | .0147 | .0146 | .0003 | .0004 | 1.0083 | .0043 | .0018 | .0013 | .0012 | .0012 | (6) | .0009 | .0028 | .0817 | .0010 | .0007 | .0453 | .0393 | .0006 | .0005 | .0014 | .0007 | (6) | .0009 | .0053 | .0005 | | .0017 | .0002 | .0007 | .0007 | | .0018 | .0029 | (6) |
| Food | (7) | .1860 | .0050 | .0006 | .0007 | .0003 | .0006 | 1.2428 | .0196 | .0153 | .0646 | .0112 | (7) | .0010 | .0207 | .0006 | .0006 | .0006 | .0013 | .0011 | .0002 | .0005 | .0036 | .0004 | (7) | .0013 | .0013 | .0032 | | .0003 | .0003 | .0007 | .0196 | | .0262 | .0018 | (7) |
| Drink/tobacco | (8) | .0002 | | | | | .0014 | 1.0881 | | | .0001 | | (8) | | | | | | | | | | | | (8) | | | | | | | | | | | | (8) |
| Textiles (except hosiery) | (9) | .0031 | .0106 | .0021 | .0422 | .0027 | .0049 | .0058 | .0054 | 1.5969 | .5319 | .0970 | (9) | .0129 | .0061 | .0102 | .0062 | .0298 | .0160 | .0218 | .0045 | .0145 | .0027 | .0013 | (9) | .0028 | .0083 | .0091 | | .0013 | .0019 | .0062 | .0027 | | .0083 | .0173 | (9) |
| Clothing/hosiery/shoes/leather | (10) | .0001 | .0001 | .0001 | .0001 | .0001 | .0001 | .0001 | .0002 | .0001 | 1.1120 | .0018 | (10) | .0006 | .0002 | .0002 | .0005 | .0002 | .0003 | .0002 | .0001 | .0003 | .0001 | .0002 | (10) | .0004 | .0042 | .0001 | | | .0001 | .0047 | .0002 | | .0032 | .0006 | (10) |
| Wood/furniture | (11) | .0022 | .0049 | .0030 | .0031 | .0054 | .0090 | .0069 | .0103 | .0093 | .0115 | 1.4456 | (11) | .0131 | .0143 | .0136 | .0150 | .0169 | .0898 | .0135 | .0051 | .0053 | .0043 | .0014 | (11) | .0029 | .0032 | .0036 | | .0015 | .0026 | .0067 | .0032 | | .0056 | .0396 | (11) |
| | Sectors | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | Sectors | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | Sectors | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | Sectors |
| Paper/printing | (12) | .0151 | .0227 | .0096 | .0136 | .0271 | .0447 | .0390 | .0692 | .0534 | .0604 | .0447 | (12) | 1.5426 | .0665 | .0632 | .0305 | .0297 | .0343 | .0256 | .0228 | .0478 | .0186 | .0557 | (12) | .1720 | .0278 | .0179 | | .0113 | .0201 | .0661 | .0506 | | .0375 | .2095 | (12) |
| Chemicals | (13) | .0699 | .2940 | .0282 | .0016 | .0015 | .0178 | .0931 | .0239 | .0092 | .0098 | .0474 | (13) | .0321 | 1.2712 | .0079 | .0133 | .0028 | .0187 | .0300 | .0014 | .0025 | .0041 | .0020 | (13) | .0057 | .0052 | .1894 | | .0180 | .0138 | .0033 | .0078 | | .0530 | .0112 | (13) |
| Clay/cement/glass | (14) | .0016 | .0033 | .0095 | .0015 | .0036 | .0155 | .0051 | .0078 | .0076 | .0075 | .0123 | (14) | .0077 | .0097 | 1.1304 | .0092 | .0043 | .1154 | .0146 | .0036 | .0039 | .0030 | .0010 | (14) | .0020 | .0029 | .0022 | | .0090 | .0018 | .0049 | .0022 | | .0026 | .0306 | (14) |
| Metal/engineering/vehicles | (15) | .0269 | .0771 | .1168 | .0722 | .0353 | .0590 | .0580 | .0692 | .0610 | .0736 | .1289 | (15) | .0779 | .0817 | .0716 | 1.1923 | .0409 | .2007 | .2408 | .0364 | .0380 | .1419 | .0153 | (15) | .0275 | .0542 | .0192 | | .0633 | .0158 | .0444 | .0528 | | .0370 | .2561 | (15) |
| Other manufacturing | (16) | .0147 | .0334 | .0391 | .1063 | .0291 | .0494 | .0327 | .0374 | .0377 | .0588 | .0613 | (16) | .0479 | .0403 | .0774 | .0735 | 1.0334 | .0529 | .0501 | .1021 | .0314 | .0290 | .0057 | (16) | .0113 | .0137 | .0518 | | .0064 | .0208 | .0487 | .0278 | | .0272 | .1080 | (16) |
| New construction | (17) | | | | | | | | | | | | (17) | | | | | | 1.0000 | | | | | | (17) | | | | | | | | | | | | (17) |
| Repair construction | (18) | .0020 | .0028 | .0014 | .0042 | .0026 | .0230 | .0034 | .0036 | .0033 | .0034 | .0029 | (18) | .0034 | .0044 | .0047 | .0021 | .0019 | .2059 | 1.0144 | .0018 | .0056 | .0285 | .0164 | (18) | .0199 | .1353 | .0015 | | .0271 | .0017 | .0073 | .0068 | | .0351 | .0137 | (18) |
| Electricity/gas/water | (19) | .0091 | .0074 | .0031 | .0035 | .0129 | .0353 | .0153 | .0115 | .0222 | .0184 | .0228 | (19) | .0278 | .0203 | .0451 | .0127 | .0107 | .0153 | .0094 | 1.0256 | .0155 | .0037 | .0091 | (19) | .0113 | .0079 | .0057 | | .0017 | .0148 | .0197 | .0175 | | .0158 | .0128 | (19) |
| Trade margin | (20) | .0473 | .0939 | .0194 | .0533 | .0279 | .0315 | .0595 | .0379 | .0402 | .0379 | .0276 | (20) | .0333 | .0383 | .0598 | .0170 | .0165 | .0642 | .0478 | .0314 | 1.0218 | .0185 | .0044 | (20) | .0089 | .0117 | .1478 | | .0156 | .0133 | .0285 | .0315 | | .0257 | .1091 | (20) |
| Transport | (21) | .0161 | .0306 | .0196 | .0598 | .0258 | .0109 | .0196 | .0136 | .0120 | .0118 | .0098 | (21) | .0117 | .0146 | .0110 | .0073 | .0063 | .0309 | .0546 | .0102 | .0447 | 1.0167 | .0338 | (21) | .0397 | .0583 | .0086 | | .0026 | .0035 | .0262 | .0179 | | .0316 | .0447 | (21) |
| Banking/insurance | (22) | .0187 | .0261 | .0092 | .0216 | .0302 | .0434 | .0397 | .0525 | .0481 | .0491 | .0427 | (22) | .0506 | .0648 | .0459 | .0283 | .0284 | .0316 | .0248 | .0247 | .0431 | .0253 | 1.0300 | (22) | .0314 | .0110 | .0169 | | .0039 | .0124 | .0483 | .0232 | | .0174 | .2040 | (22) |
| | Sectors | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | Sectors | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | Sectors | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | Sectors |
| Other financial | (23) | .0370 | .0214 | .0080 | .0366 | .0326 | .0342 | .0529 | .0415 | .0397 | .0400 | .0341 | (23) | .0398 | .0510 | .0365 | .0269 | .0223 | .0267 | .0212 | .0252 | .0598 | .0227 | .1774 | (23) | 1.1516 | .0131 | .0169 | | .0036 | .0159 | .0595 | .0480 | | .0353 | .1589 | (23) |
| Communications | (24) | .0080 | .0091 | .0031 | .0177 | .0096 | .0136 | .0144 | .0165 | .0153 | .0155 | .0134 | (24) | .0158 | .0202 | .0145 | .0095 | .0089 | .0105 | .0083 | .0081 | .0263 | .0078 | .0407 | (24) | .0849 | 1.0070 | .0070 | | .0014 | .0097 | .0426 | .0433 | | .0260 | .0634 | (24) |
| Medical services, private | (25) | .0001 | .0002 | .0001 | .0001 | .0003 | .0005 | .0004 | .0006 | .0006 | .0006 | .0005 | (25) | .0006 | .0008 | .0006 | .0003 | .0003 | .0004 | .0003 | .0003 | .0003 | .0003 | .0001 | (25) | .0002 | .0003 | 1.0002 | | | .0001 | .0004 | .0002 | | .0759 | .0025 | (25) |
| Education | (26) | .0013 | .0026 | .0011 | .0010 | .0031 | .0056 | .0043 | .0067 | .0061 | .0063 | .0055 | (26) | .0065 | .0083 | .0059 | .0036 | .0037 | .0039 | .0030 | .0026 | .0033 | .0019 | .0007 | (26) | .0015 | .0012 | .0019 | 1.0000 | .0005 | .0016 | .0041 | .0017 | | .0023 | .0264 | (26) |
| Rent of dwellings | (27) | .0005 | .0010 | .0004 | .0004 | .0011 | .0021 | .0016 | .0025 | .0023 | .0024 | .0021 | (27) | .0024 | .0031 | .0022 | .0014 | .0014 | .0015 | .0011 | .0010 | .0012 | .0007 | .0003 | (27) | .0006 | .0005 | .0007 | | 1.0002 | .0006 | .0015 | .0006 | | .0026 | .0099 | (27) |
| Personal services | (28) | | | | | | | | | | | | (28) | | | | | | | | | .0001 | | | (28) | .0002 | | | | | 1.0182 | .0415 | | | .0024 | .0001 | (28) |
| Hotel/catering margin | (29) | .0001 | .0001 | .0001 | .0001 | .0002 | .0002 | .0002 | .0003 | .0003 | .0003 | .0002 | (29) | .0003 | .0003 | .0002 | .0002 | .0001 | .0002 | .0001 | .0001 | .0005 | .0001 | .0003 | (29) | .0019 | .0001 | .0001 | | | .0001 | 1.0002 | .0001 | | .0234 | .0011 | (29) |
| Sport | (30) | .0003 | .0003 | .0001 | .0006 | .0003 | .0004 | .0005 | .0005 | .0005 | .0005 | .0004 | (30) | .0005 | .0006 | .0005 | .0003 | .0003 | .0003 | .0003 | .0003 | .0008 | .0003 | .0014 | (30) | .0039 | .0292 | .0002 | | | .0003 | .0037 | 1.0013 | | .0068 | .0020 | (30) |
| Domestic service/hand. | (31) | | | | | | | | | | | | (31) | | | | | | | | | .0004 | | | (31) | .0001 | .0007 | .0001 | | | | | .0011 | 1.0000 | | .0001 | (31) |
| Government services | (32) | .0016 | .0032 | .0014 | .0013 | .0039 | .0070 | .0054 | .0084 | .0076 | .0079 | .0069 | (32) | .0082 | .0105 | .0074 | .0045 | .0046 | .0050 | .0039 | .0033 | .0042 | .0037 | .0010 | (32) | .0021 | .0037 | .0023 | | .0006 | .0020 | .0053 | .0022 | | 1.0036 | .0331 | (32) |
| Arts. Sect. n.e.s. | (33) | .0533 | .1078 | .0473 | .0410 | .1288 | .2351 | .1825 | .2828 | .2569 | .2646 | .2312 | (33) | .2747 | .3524 | .2478 | .1517 | .1547 | .1661 | .1283 | .1113 | .1390 | .0803 | .0304 | (33) | .0645 | .0505 | .0786 | | .0196 | .0659 | .1735 | .0718 | | .0714 | 1.1126 | (33) |
| | Sectors | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | Sectors | (12) | (13) | (14) | (15) | (16) | (17) | (18) | (19) | (20) | (21) | (22) | Sectors | (23) | (24) | (25) | (26) | (27) | (28) | (29) | (30) | (31) | (32) | (33) | Sectors |

*Rows (1) to (16) contain Similar Imports.