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Progress report # 5: on the Temporal Variability of the Aggregate Input Structure

By

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20

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Introduction

In this progress report, we focus once again on the variability of the input structure[1], in purchaser's prices over the time interval 1961 - 1984. This input structure, as in the past, has been **enlarged** to include primary inputs. This time, however, in contrast to two of the earlier progress reports[2], we are interested in the variability of a much less detailed input structure. Previous progress reports were based on the **enlarged detailed input structure** at the L level of aggregation. At this detailed level, 602 industrial inputs are classified by the 161 industries that use them as inputs, for their production of outputs. Within the context of the present report, the industry dimension of the input structure will continue to be at the L level. The number of inputs, on the other hand, will be greatly reduced from the L level through aggregation , from 602 classes into 2 very broad classes: (1) "intermediate" inputs; and (2) Gross Domestic Product (GDP) at factor cost, or "primary" inputs. The resulting structure will be referred to, herein, as the **aggregate input structure.**

The variability results for the **aggregate input structure** that will be presented in this report have been produced under two alternative decompositions. Namely, we have the **industry decomposition**, and the **aggregate commodity decomposition.** In

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1 In the context of this report, a structure is defined as a set of shares that sum to one.

2 Durand R. and Markle T., "Measuring the Variability of Input-Output Structures: A Progress Report", Statistics Canada, Input-Output Division, December 1987; and (2) Markle T. and Durand R., "On the Variability of Input-Output Structures: A Progress Report on the Constant Price Industrial Input Structure", Statistics Canada Input-Output Division, April 1988.

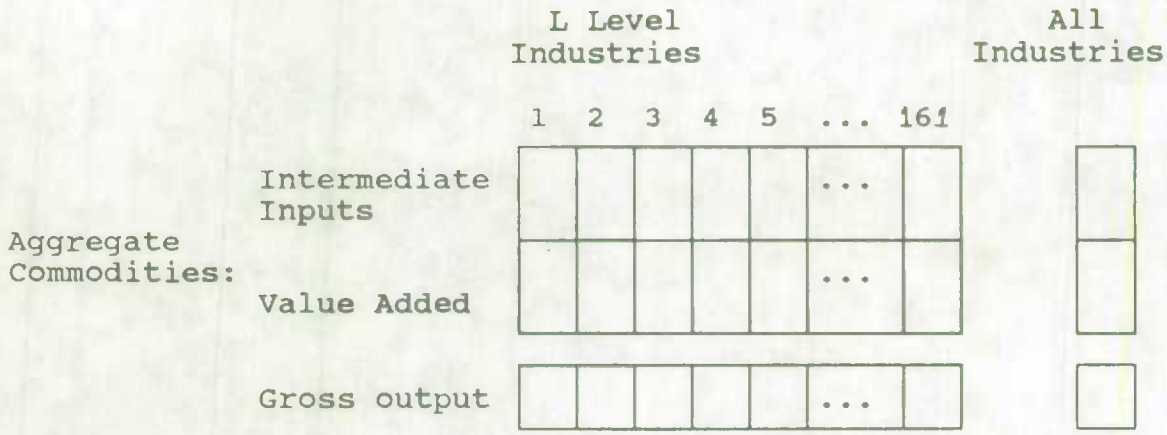
general, the decomposition property of the entropy measure gives us the ability to explain the total variability of a structure, suitably partitioned into a set of substructures, in terms of the variability of its substructures. More precisely, the overall entropy of a structure can be expressed as the sum of the **within**, or average, entropy of its substructures and the entropy **between** these substructures. In other words:

TOTAL ENTROPY = BETWEEN + WITHIN

The **total entropy** of a structure, on the left-hand side of the above identity, is independent of the decomposition used. Furthermore, it can be calculated directly, which would have been done if we were only interested in analyzing the overall variability of the input structure. In that case a decomposition would not have been needed. An entropy decomposition should, however, be used when the importance of a specific source of a structure's variability is to be evaluated. With regard to variability of the **aggregate input structure**, we are currently interested in evaluating two of the potential sources of variability and hence the two decompositions.

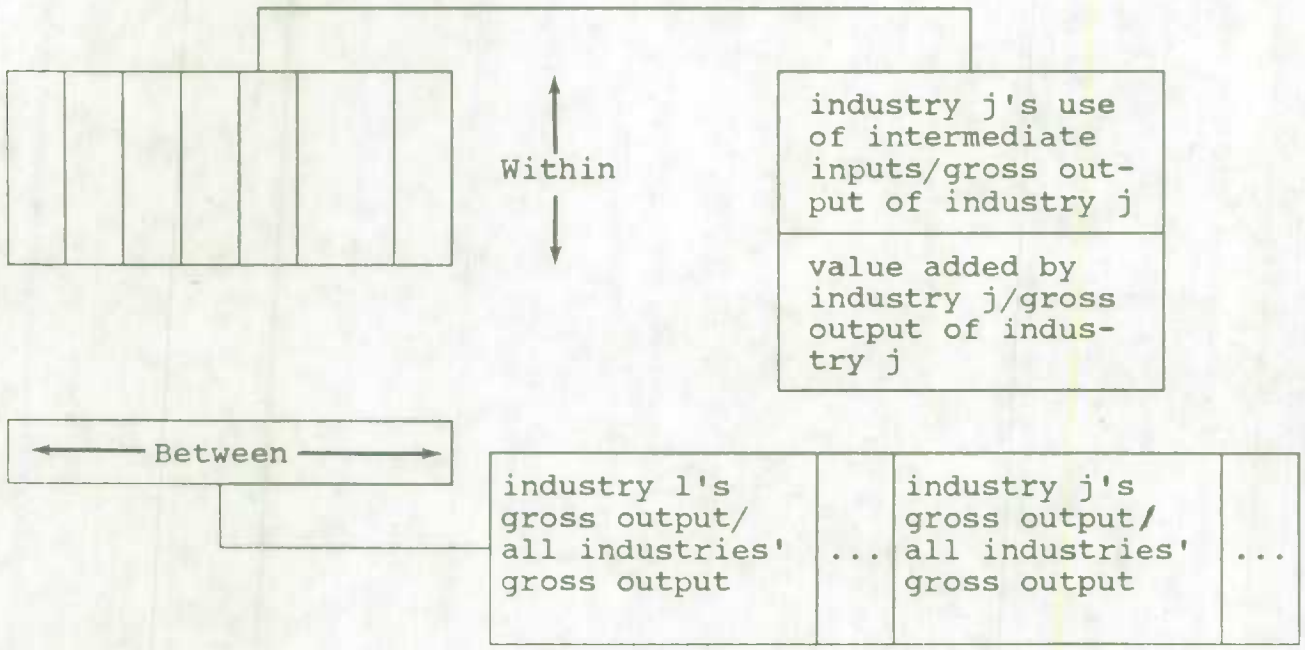
Diagramatically, the **aggregate input structure**, which represents the "overall" structure in this case, along with its corresponding marginal totals, can be represented as follows:

AGGREGATE INPUT STRUCTURE

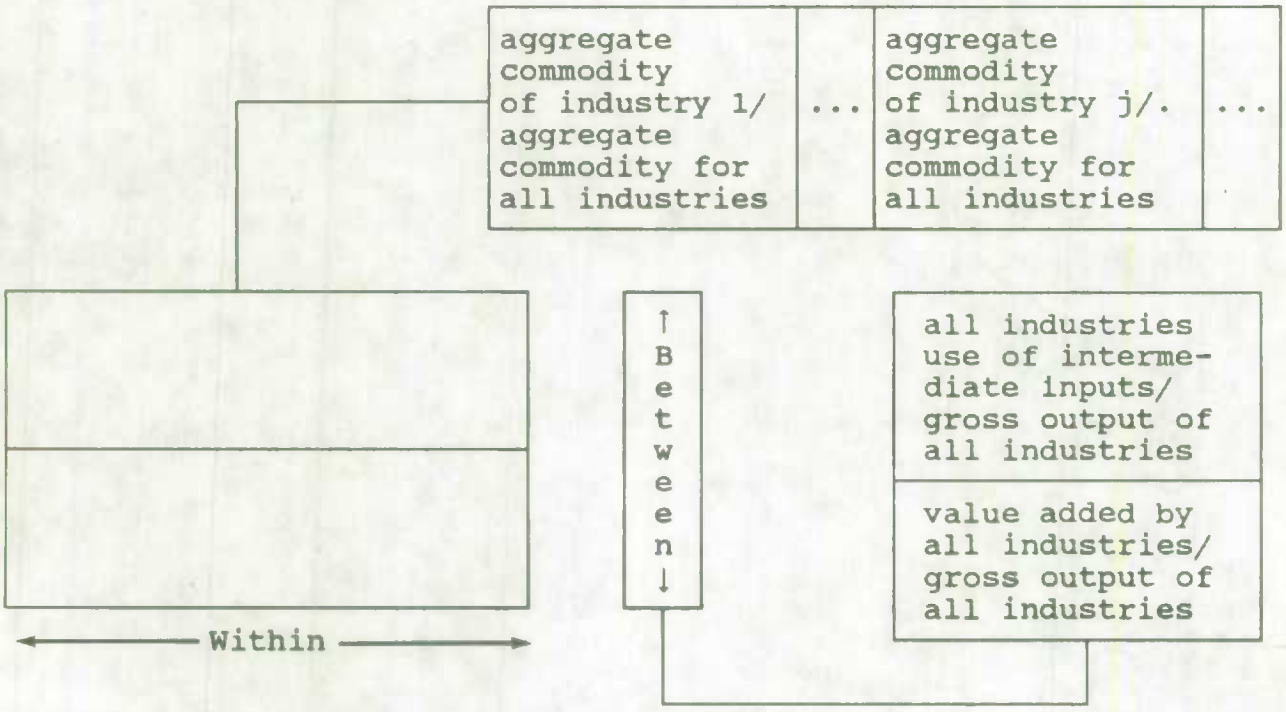


with reference to the above diagram, the two entropy decompositions can be depicted as follows:

1. Industry Decomposition



2. Aggregate Commodity Decomposition



The **industry decomposition** involves a column-wise partitioning of the overall structure, resulting in 161 column, or industry, substructures. Each industry substructure is comprised of only two aggregate shares: one, the total of intermediate inputs to gross output; and two, valued added to gross ouput. The **within** entropy component in this case measures the average variability of these 161 industry substructures. The **between** entropy component, on the other hand, measures the variability of the structure of industries' gross outputs. This structure consists of 161 shares, each one representing the importance of a single industry's gross output relative to the gross output of all industries. The following identity is implied by this decomposition:

TOTAL ENTROPY	=	BETWEEN	+	WITHIN
based on the **aggregate input structure**	=	entropy based on the structure of industries' shares of gross output	+	$\sum_{j=1}^{161} \left(\text{industry j's share of gross output}\right) \bullet \left(\text{raw entropy of industry j}\right)$

Another useful by-product of the **industry decomposition** are the **raw industry entropies**, which are required for calculating the **within** component. These detailed measures allow us to analyze the variability of individual industry structures, in contrast to the more aggregative **within** component, which is only indicative of the average variability of all industry structures.

The **aggregate commodity decomposition** involves a row-wise partitioning of the input structure into two row, or aggregate commodity substructures. Each of these substructures consists of one share per industry, for a total of 161 shares. In the case of the intermediate input substructure, each share reveals the importance of an industry's use of intermediate inputs relative to the intermediate inputs used by all industries. Similarily, each share in the value added substructure reveals the importance of the value added by a single industry relative to the value added by all industries. The **within** entropy component measures the average variability of these two substructures. The **between** entropy component in this case measures the variability of a structure comprised of only two shares. These are, respectively, all industries' use of intermediate inputs, and value added, relative to the gross output of all industries. The identity which is implied by this decomposition is:

TOTAL ENTROPY	=	BETWEEN	+	WITHIN
based on the **aggregate input structure**	= =	entropy based on the structure of aggregate commodity shares in gross output	+	$\sum_{i=1}^{2} \left(\text{all industries' share of aggregate commodity i in gross output}\right) \bullet \left(\text{raw entropy of aggregate commodity i}\right)$

For the **commodity decomposition** it is also of interest to look at the intermediate results used to construct the **within** component. This time we have the **raw aggregate commodity entropies,** which permits us to compare the variability of the structure of intermediate inputs across industries with that of the structure of value added across industries, as the **within** component is just an average measure of the variability of the two aggregate commodity structures.

The two decompositions just described have been applied to both the current and constant price aggregate input **structures**[3]. The results obtained will now be presented for each decomposition in turn, beginning with the results for the **industry decomposition.** Also appearing in this report, for the **industry decomposition** only, are the variability results for the **detailed input structure** (which were presented in previous progress reports). The purpose of including these results is to expose the impact of aggregation in terms of reducing the variability of the input structure. As in previous reports, the one, two, and five year time intervals have been used as the bases for comparisons.

1. Industry Decomposition Results

The following three histograms, appearing in Graph 1, show, for the **current price** data the respective distributions of **raw industry entropy**, corresponding to each of the three time intervals. As previously mentioned, the **aggregate industry structures** contain only two components: (1) a material input component; and (2) a value added component. Hence, for any industry, say industry j, the **raw entropy** is an estimate of the variability, over time, of the ratios, or structure:

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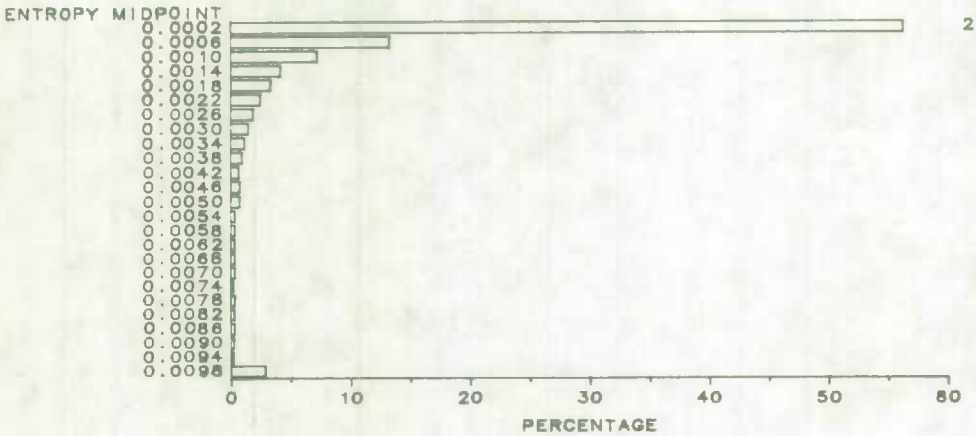
3 The author would like to thank France-Clément Lalande, who diligently performed all of the data processing connected with this report.

GRAPH 1

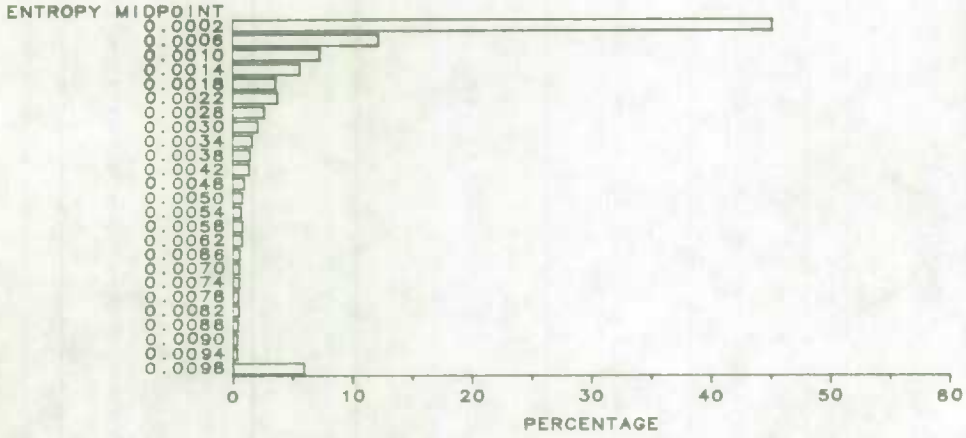
PERCENTAGE DISTRIBUTION OF INDUSTRY ENTROPIES BASED ON AGGREGATE CURRENT PRICE INDUSTRY STRUCTURES FOR THE TIME SERIES 1961–1984

CORRESPONDING TO ONE YEAR TIME INTERVALS



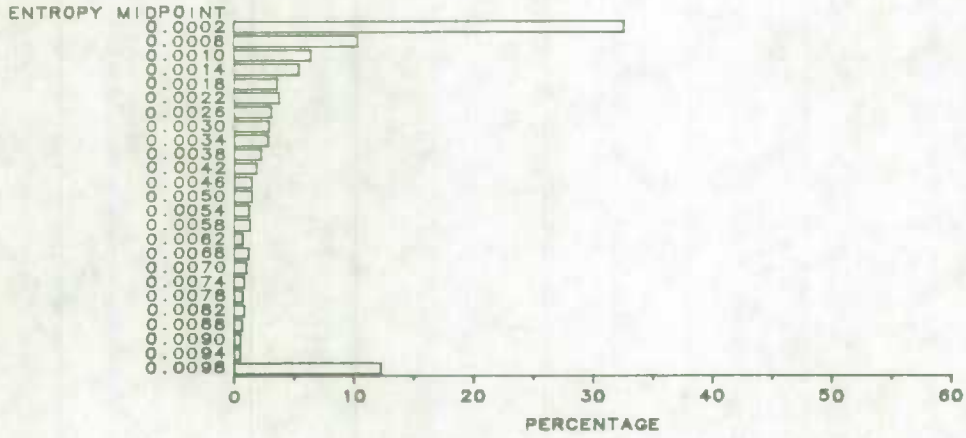
FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
2081	2081	56.20	56.20
491	2572	13.26	69.46
266	2838	7.18	76.64
153	2991	4.13	80.77
123	3114	3.32	84.09
92	3206	2.48	86.58
69	3275	1.86	88.44
53	3328	1.43	89.87
42	3370	1.13	91.01
34	3404	0.92	91.93
25	3429	0.68	92.60
27	3456	0.73	93.33
27	3483	0.73	94.06
12	3495	0.32	94.38
12	3507	0.32	94.71
11	3518	0.30	95.00
12	3530	0.32	95.33
12	3542	0.32	95.65
7	3549	0.19	95.84
12	3561	0.32	96.17
10	3571	0.27	96.44
11	3582	0.30	96.73
8	3590	0.22	96.95
7	3597	0.19	97.14
106	3703	2.86	100.00

CORRESPONDING TO TWO YEAR TIME INTERVALS



FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
1598	1598	45.12	45.12
432	2030	12.20	57.31
258	2288	7.28	64.60
199	2487	5.62	70.21
128	2615	3.61	73.83
133	2748	3.75	77.58
93	2841	2.63	80.21
73	2914	2.06	82.27
57	2971	1.61	83.88
50	3021	1.41	85.29
48	3069	1.36	86.65
33	3102	0.93	87.58
27	3129	0.76	88.34
24	3153	0.68	89.02
28	3181	0.79	89.81
26	3207	0.73	90.54
19	3226	0.54	91.08
18	3244	0.51	91.59
18	3262	0.51	92.09
15	3277	0.42	92.52
17	3294	0.48	93.00
14	3308	0.40	93.39
12	3320	0.34	93.73
12	3332	0.34	94.07
210	3542	5.93	100.00

CORRESPONDING TO FIVE YEAR TIME INTERVALS

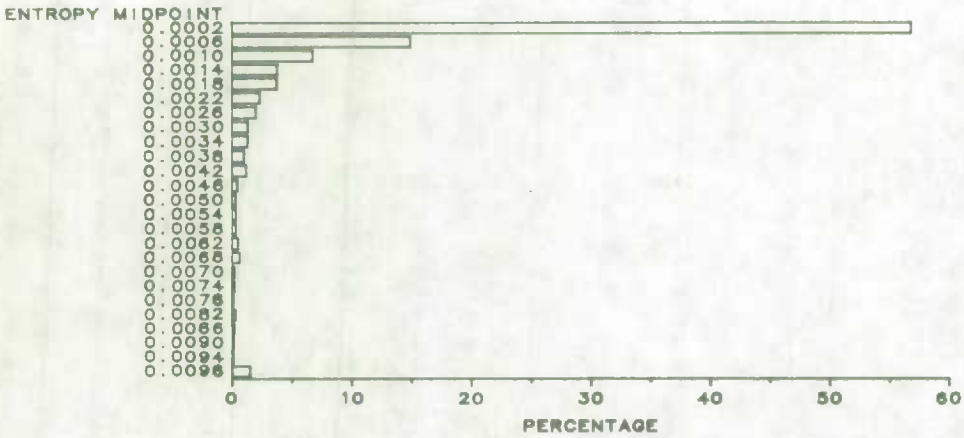


FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
997	997	32.59	32.59
317	1314	10.36	42.96
197	1511	6.44	49.40
166	1677	5.43	54.82
111	1788	3.63	58.45
115	1903	3.76	62.21
95	1998	3.11	65.32
89	2087	2.91	68.22
87	2174	2.84	71.07
68	2242	2.22	73.29
57	2299	1.86	75.16
44	2343	1.44	76.59
46	2389	1.50	78.10
38	2427	1.24	79.34
41	2468	1.34	80.68
22	2490	0.72	81.40
37	2527	1.21	82.61
32	2559	1.05	83.65
26	2585	0.85	84.50
22	2607	0.72	85.22
26	2633	0.85	86.07
20	2653	0.65	86.73
16	2669	0.52	87.25
15	2684	0.49	87.74
375	3059	12.26	100.00

GRAPH 2

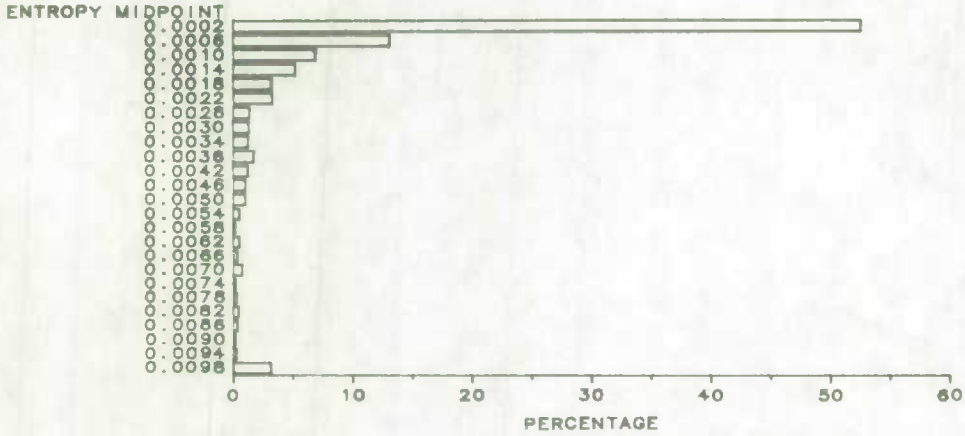
PERCENTAGE DISTRIBUTION OF INDUSTRY ENTROPIES CORRESPONDING TO ONE-YEAR TIME COMPARISONS OF AGGREGATE CONSTANT PRICE INDUSTRY STRUCTURES

FOR THE TIME SERIES 1961-1971



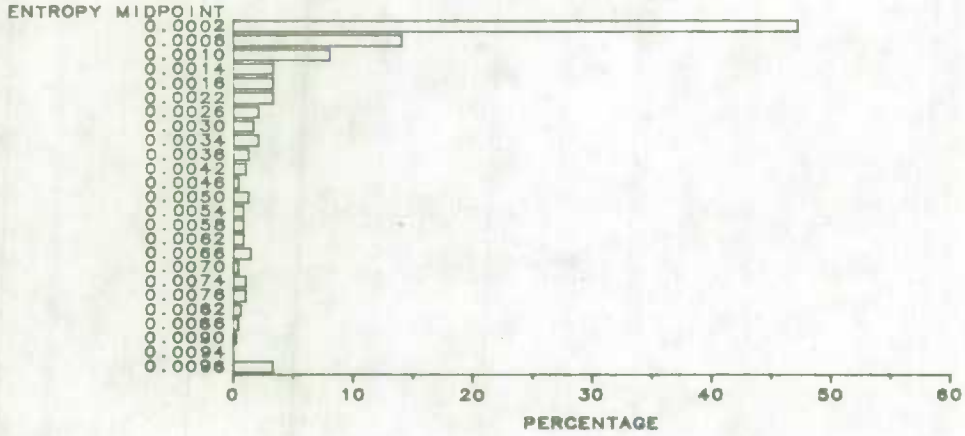
FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
914	914	56.77	56.77
240	1154	14.91	71.68
108	1262	6.71	78.39
61	1323	3.79	82.17
60	1383	3.73	85.90
37	1420	2.30	88.20
32	1452	1.99	90.19
21	1473	1.30	91.49
21	1494	1.30	92.80
16	1510	0.99	93.79
19	1529	1.18	94.97
7	1536	0.43	95.40
5	1541	0.31	95.71
5	1546	0.31	96.02
5	1551	0.31	96.34
8	1559	0.50	96.83
10	1569	0.62	97.45
3	1572	0.19	97.64
3	1575	0.19	97.83
1	1576	0.06	97.89
4	1580	0.25	98.14
3	1583	0.19	98.32
2	1585	0.12	98.45
1	1586	0.06	98.51
24	1610	1.49	100.00

FOR THE TIME SERIES 1971-1981



FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
845	845	52.48	52.48
211	1056	13.11	65.59
111	1167	6.89	72.48
84	1251	5.22	77.70
52	1303	3.23	80.93
53	1356	3.29	84.22
22	1378	1.37	85.59
21	1399	1.30	86.89
20	1419	1.24	88.14
28	1447	1.74	89.88
20	1467	1.24	91.12
16	1483	0.99	92.11
16	1499	0.99	93.11
8	1507	0.50	93.60
2	1509	0.12	93.73
8	1517	0.50	94.22
5	1522	0.31	94.53
12	1534	0.75	95.28
3	1537	0.19	95.47
4	1541	0.25	95.71
7	1548	0.43	96.15
5	1553	0.31	96.46
2	1555	0.12	96.58
4	1559	0.25	96.83
51	1610	3.17	100.00

FOR THE TIME SERIES 1981-1984

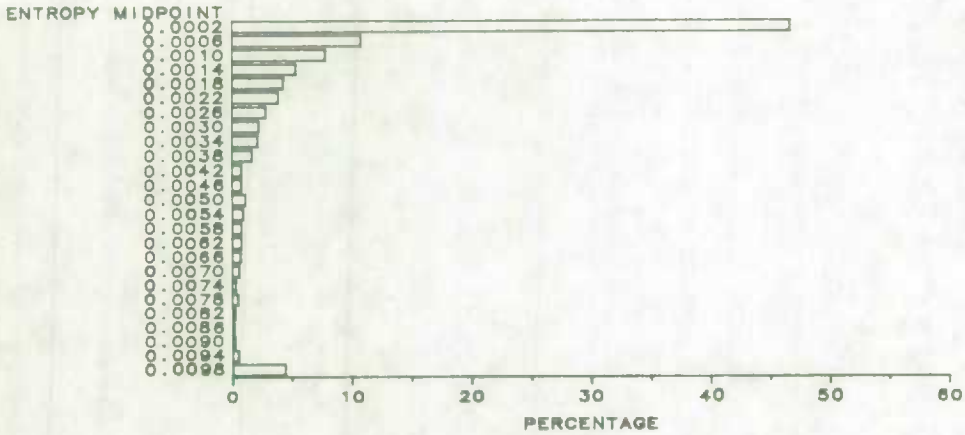


FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
228	228	47.20	47.20
68	296	14.08	61.26
39	335	8.07	69.36
16	351	3.31	72.67
16	367	3.31	75.98
16	383	3.31	79.30
10	393	2.07	81.37
8	401	1.66	83.02
10	411	2.07	85.09
6	417	1.24	86.34
5	422	1.04	87.37
2	424	0.41	87.78
6	430	1.24	89.03
4	434	0.83	89.86
4	438	0.83	90.68
4	442	0.83	91.51
7	449	1.45	92.96
2	451	0.41	93.37
5	456	1.04	94.41
5	461	1.04	95.45
3	464	0.62	96.07
2	466	0.41	96.48
1	467	0.21	96.69
0	467	0.00	96.69
16	483	3.31	100.00

GRAPH 3

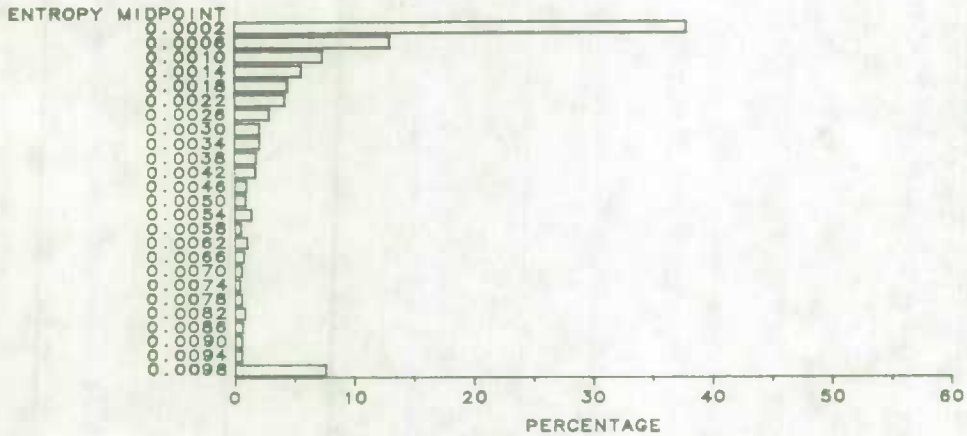
PERCENTAGE DISTRIBUTION OF INDUSTRY ENTROPIES CORRESPONDING TO TWO-YEAR TIME COMPARISONS OF AGGREGATE CONSTANT PRICE INDUSTRY STRUCTURES

FOR THE TIME SERIES 1961-1971



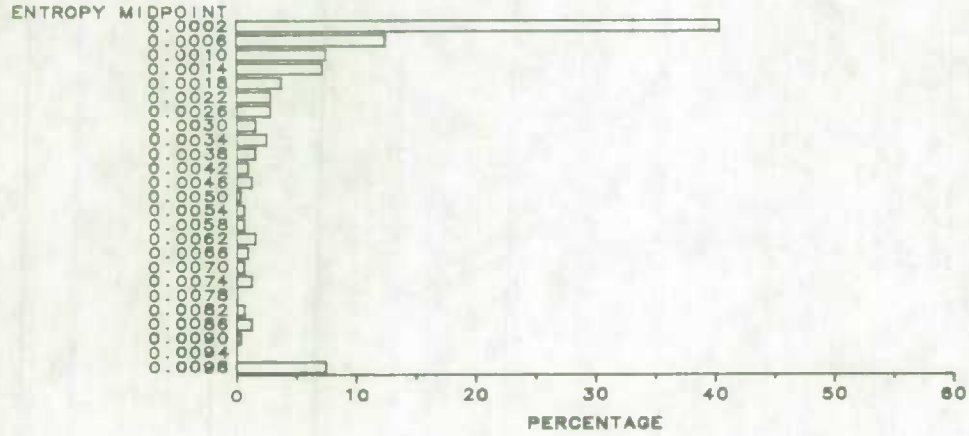
FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
676	676	46.65	46.65
156	832	10.77	57.42
113	945	7.80	65.22
77	1022	5.31	70.53
62	1084	4.28	74.81
56	1140	3.86	78.67
41	1181	2.83	81.50
32	1213	2.21	83.71
31	1244	2.14	85.85
24	1268	1.66	87.51
11	1279	0.76	88.27
11	1290	0.76	89.03
16	1306	1.10	90.13
13	1319	0.90	91.03
11	1330	0.76	91.79
11	1341	0.76	92.55
10	1351	0.69	93.24
8	1359	0.55	93.79
4	1363	0.28	94.08
7	1370	0.48	94.55
3	1373	0.21	94.76
2	1375	0.14	94.89
3	1378	0.21	95.10
7	1385	0.48	95.58
64	1449	4.42	100.00

FOR THE TIME SERIES 1971-1981



FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
547	547	37.75	37.75
188	735	12.97	50.72
106	841	7.32	58.04
81	922	5.59	63.63
64	986	4.42	68.05
61	1047	4.21	72.26
42	1089	2.90	75.16
30	1119	2.07	77.23
30	1149	2.07	79.30
26	1175	1.79	81.09
25	1200	1.73	82.82
14	1214	0.97	83.78
13	1227	0.90	84.68
20	1247	1.38	86.06
7	1254	0.48	86.54
15	1269	1.04	87.58
11	1280	0.76	88.34
8	1288	0.55	88.89
6	1294	0.41	89.30
8	1302	0.55	89.86
12	1314	0.83	90.68
9	1323	0.62	91.30
8	1331	0.55	91.86
8	1339	0.55	92.41
110	1449	7.59	100.00

FOR THE TIME SERIES 1981-1984

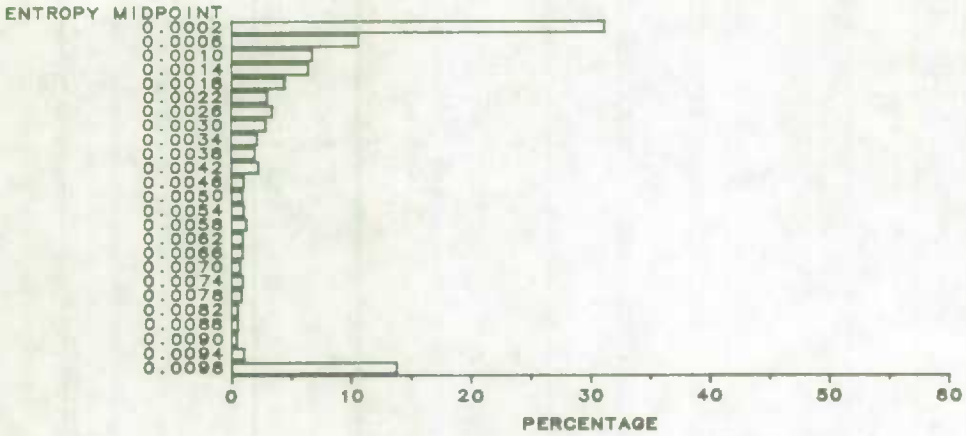


FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
130	130	40.37	40.37
40	170	12.42	52.80
24	194	7.45	60.25
23	217	7.14	67.39
12	229	3.73	71.12
9	238	2.80	73.91
9	247	2.80	76.71
5	252	1.55	78.26
8	260	2.48	80.75
5	265	1.55	82.30
3	268	0.93	83.23
4	272	1.24	84.47
1	273	0.31	84.78
2	275	0.62	85.40
2	277	0.62	86.02
5	282	1.55	87.58
3	285	0.93	88.51
2	287	0.62	89.13
4	291	1.24	90.37
0	291	0.00	90.37
2	293	0.62	90.99
4	297	1.24	92.24
1	298	0.31	92.55
0	298	0.00	92.55
24	322	7.45	100.00

GRAPH 4

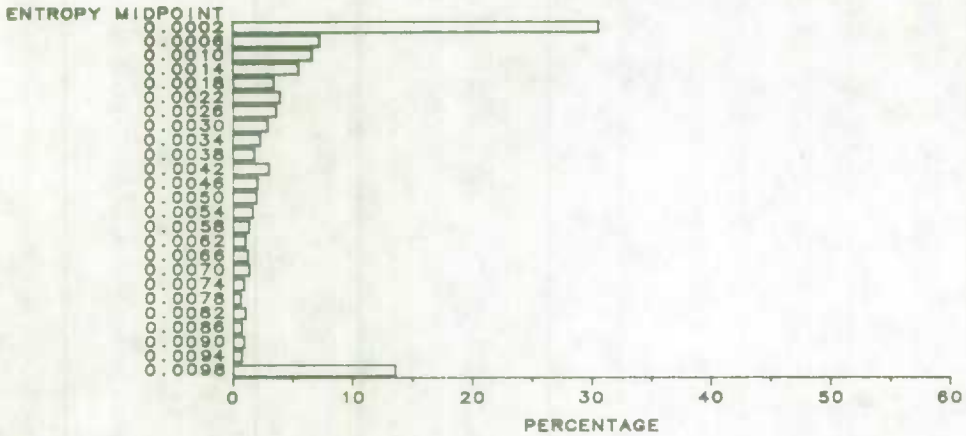
PERCENTAGE DISTRIBUTION OF INDUSTRY ENTROPIES CORRESPONDING TO FIVE-YEAR TIME COMPARISONS OF AGGREGATE CONSTANT PRICE INDUSTRY STRUCTURES

FOR THE TIME SERIES 1961-1971



FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
301	301	31.16	31.16
103	404	10.66	41.82
85	489	8.73	48.55
82	531	8.42	54.97
43	574	4.45	59.42
29	603	3.00	62.42
33	636	3.42	65.84
28	664	2.90	68.74
21	685	2.17	70.91
19	704	1.97	72.88
22	726	2.28	75.16
10	736	1.04	76.19
9	745	0.93	77.12
10	755	1.04	78.16
12	767	1.24	79.40
9	776	0.93	80.33
9	785	0.93	81.26
7	792	0.72	81.99
9	801	0.93	82.92
8	809	0.83	83.75
5	814	0.52	84.27
5	819	0.52	84.78
4	823	0.41	85.20
10	833	1.04	86.23
133	966	13.77	100.00

FOR THE TIME SERIES 1971-1981



FREQ	CUM. FREQ	PERCENT	CUM. PERCENT
295	295	30.54	30.54
70	365	7.25	37.78
64	429	6.63	44.41
53	482	5.49	49.90
33	515	3.42	53.31
38	553	3.93	57.25
35	588	3.62	60.87
28	616	2.90	63.77
22	638	2.28	66.05
17	655	1.76	67.81
29	684	3.00	70.81
20	704	2.07	72.88
19	723	1.97	74.84
16	739	1.66	76.50
13	752	1.35	77.85
10	762	1.04	78.88
12	774	1.24	80.12
13	787	1.35	81.47
9	796	0.93	82.40
6	802	0.62	83.02
10	812	1.04	84.06
7	819	0.72	84.78
9	828	0.93	85.71
7	835	0.72	86.44
131	966	13.56	100.00

$$\left(\frac{\text{material inputs used by industry j}}{\text{gross output of industry j}} , \frac{\text{value added by industry j}}{\text{gross output of industry j}} \right)$$

where, for each industry (j=1,...,161), we have the identity:

material inputs used by industry j	+	value added by industry j	=	gross output of industry j

The first histogram on Graph 1, which corresponds to a one year comparison interval, reveals that over half of the entropy observations are below 0.0004 nits, with a very small proportion of observations exceeding 0.0096 nits. Recalling that approximately half of the **raw entropies** associated with the more **detailed industry input structures**, published in the first progress report, exceeded 0.01 nits we can appreciate the large impact that aggregation has had in terms of reducing the variability of the industry structures.

Looking at the remaining two histograms on Graph 1 we notice that the entropy distribution is shifting to the right as the time interval increases. This result is consistent with the results published in the first progress report, concerning the detailed (L level) current price structure.

Graphs 2, 3 and 4 show the distributions of **raw industry entropy**, which are analogous to those of Graph 1, that relate to the **constant price aggregate input structure.** In order to produce these three graphs, the entropy results were compiled separately for each of the three time periods or decades: 1961-1971, 1971-1981, and 1981-1984.[4] In general, the histograms on Graphs 2, 3

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[4]. This was necessary as there are three sets of base relative prices which apply to the constant price time series data for 1961-1984.

and 4 reveal patterns similar to those of Graph 1, in terms of both the shape and location of the various distributions. The entropy distributions across decades appear to be fairly stable, whereas they appear to shift towards the right as the time interval increases.

The purpose of Graph 5, is to give the reader further insight about the nature of the structural changes that are reflected in the preceding **raw industry entropy** results. This graph is just an aerial view of Graph A1-1 which appeared in a previous progress report.[5] On the horizontal axis, the state of the initial structure is represented whereas the state of the final structure is represented on the vertical axis. Any conceivable structural change in a two-element structure can therefore be located on the graph using this coordinate system. Each coloured contour on the graph traces out all of the structural changes that correspond to a fixed entropy level. The lense-shaped region formed by a given contour encompasses a set of structural changes that have smaller entropies than the level represented by that contour. As the entropy level increases, the wider this lense-shaped region becomes, as more structural changes are taken into account.

As mentioned earlier, with reference to Graph 1, over half (56%) of the **raw industry entropies** corresponding to **current price aggregate input structure**, for the one year interval are below 0.0004 nits. Relating this to Graph 5, this means that all industry entropies below 0.0004 nits, which constitutes the

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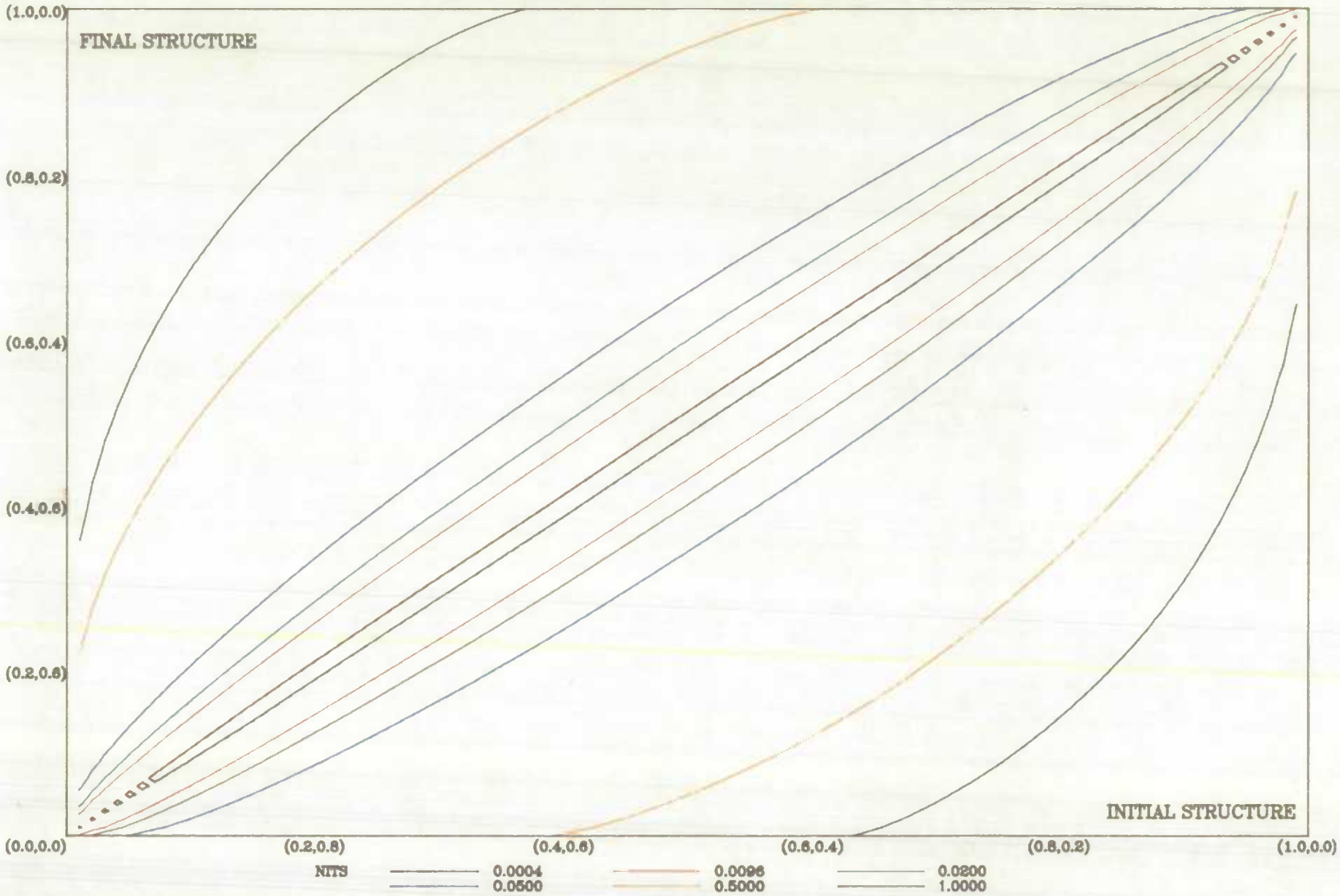
[5] Durand R. and Markle T., "Structural Changes in the Canadian Economy: The Supply Side in Current Prices" Statistics Canada, Input-Output Division, July 1988.

GRAPH 5

CROSS ENTROPY VALUES ASSOCIATED WITH
HYPOTHETICAL SHIFTS IN A TWO-ELEMENT STRUCTURE:
PLOT OF THREE VARIABLES IN TWO DIMENSIONS



majority of structural changes that have been encountered, fall within the lense formed by the black contour on Graph 5. When considering the potential range for structural change, the structural changes confined within this region are indeed very marginal. The red contour forms a similar, but slightly wider, lense region which includes the set of structural changes whose entropies are below 0.0096 nits. Therefore, less than three percent of our **raw industry entropy** results corresponding to the **current price aggregate input structure**, for the one year time interval, lie outside of this red contour. The remaining contour lines on Graph 5 were based on arbitrarily chosen entropy levels.

Appendices 1 and 2 provide tabulated summary reports of **raw industry entropy** results, based on the **current** and **constant price aggregate input structures**, respectively. Graphs 6, 7 and 8, which follow, provide a visual impression of the results reported in Appendix 1. Graph 6, for example, shows the industry profile of entropy results based on one year comparisons of the **current price aggregate input structure.** On this graph, the vertical axis measures the mean entropy level in nits whereas the remaining two axes jointly determine the L level industry. Industry 85, for example, is found at the intersection of the "industry range" coordinate, 81-90, and the "last digit of industry code" coordinate, 5. The mean entropy of industry 85 (which is 0.0013 nits) can than be crudely determined by comparing the height of the perpendicular line, or "needle", from industry 85 with the vertical axis[6]. Furthermore, these "needles" have been colour-coded so that any L level industry code can be readily identified as belonging to one of the following sectors: Primary; Manufacturing; Construction; or Services.

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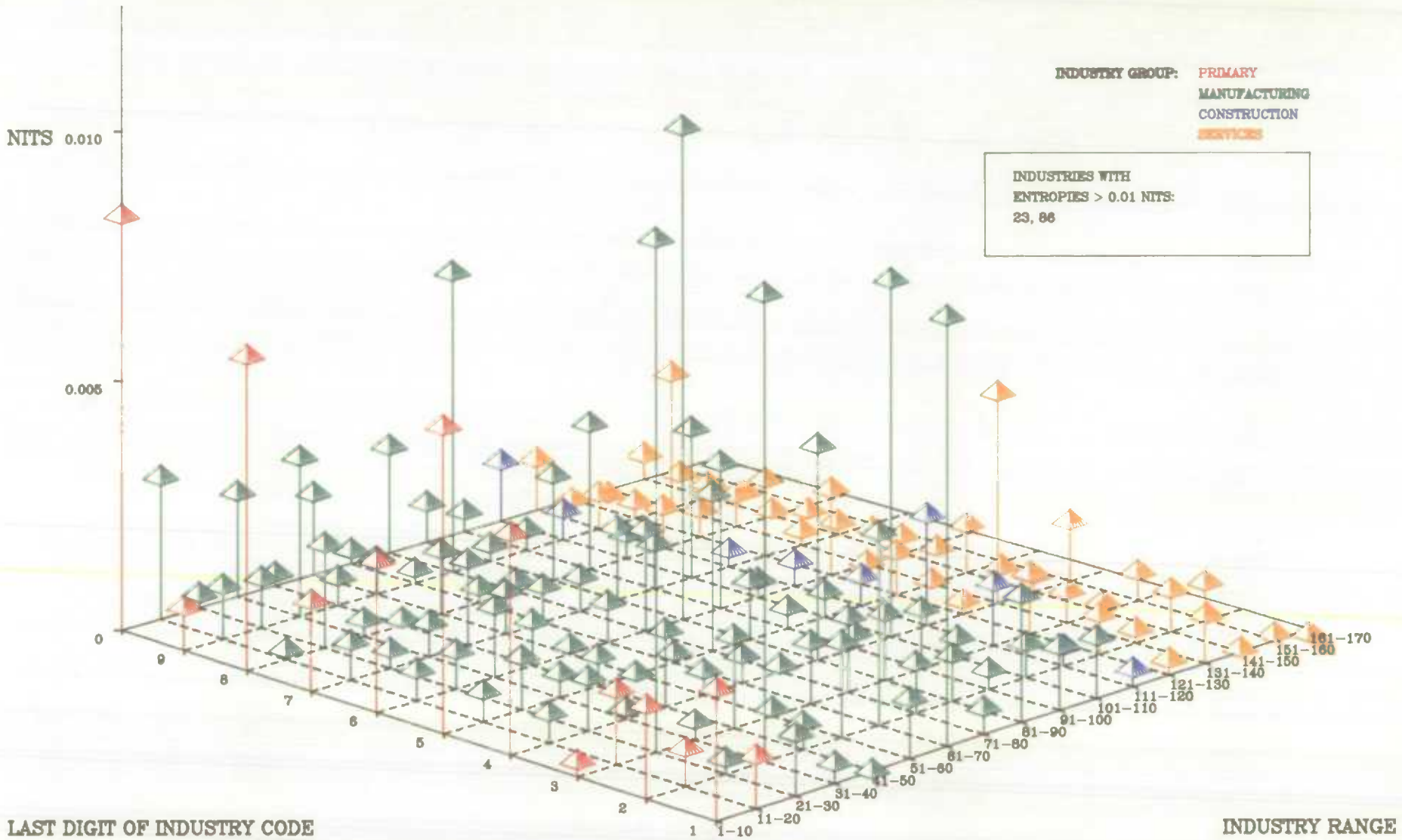
[6] The mean entropies of a small number of industries (>0.1 nits) could not be represented precisely on the graph due to the scale chosen.

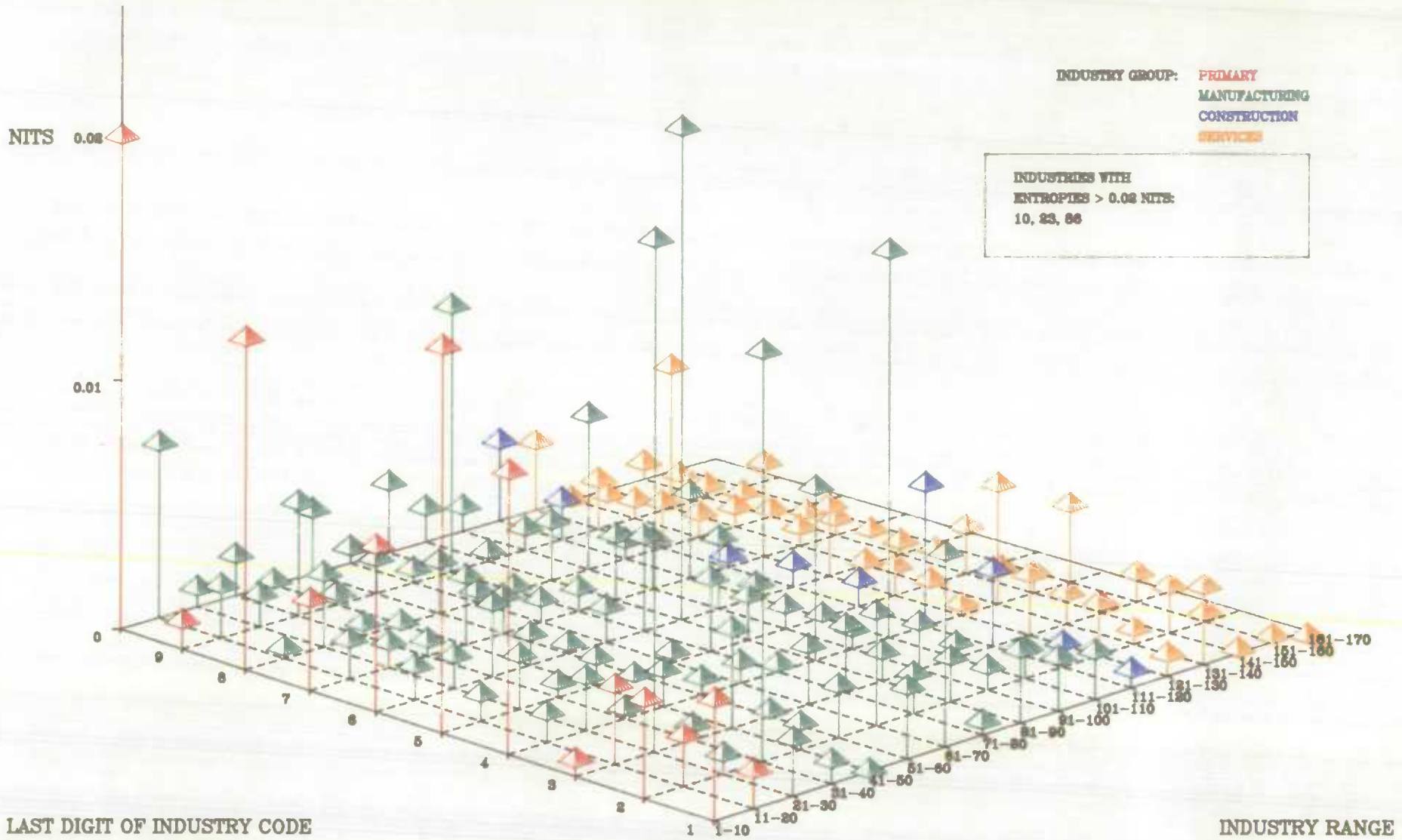
GRAPH 6

MEAN ENTROPY VALUES FOR CURRENT PRICE AGGREGATE INDUSTRY STRUCTURES CORRESPONDING TO ONE–YEAR TIME INTERVALS FOR THE 1961–1984 TIME SERIES



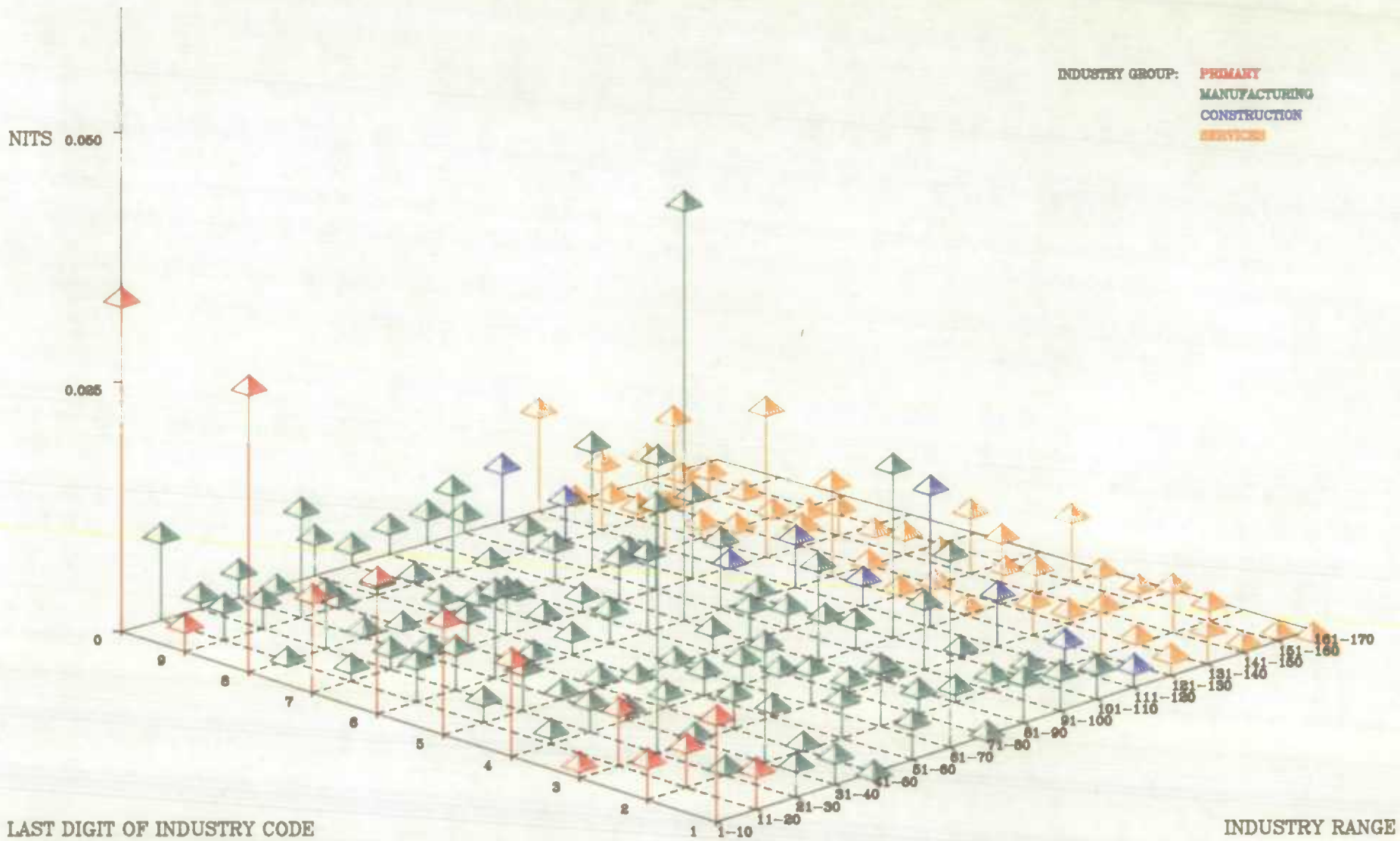
GRAPH 7

MEAN ENTROPY VALUES FOR CURRENT PRICE AGGREGATE INDUSTRY STRUCTURES CORRESPONDING TO TWO–YEAR TIME INTERVALS FOR THE 1961–1984 TIME SERIES



GRAPH 8

MEAN ENTROPY VALUES FOR CURRENT PRICE INDUSTRY STRUCTURES
CORRESPONDING TO FIVE-YEAR TIME INTERVAL
FOR THE 1961-1984 TIME SERIES



In general, Graph 6 illustrates that primary and manufacturing industries tend to exhibit large mean entropy values relative to those exhibited by construction and service industries. Graph 7, which is based on two year time comparisons, shows a very similar industry profile to Graph 6, even though the absolute entropy levels have increased significantly. Graph 8, which is based on five year time comparisons, indicates again that changes in industry structures are becoming more important with longer time horizons, although the diversity between these mean industry entropies seems to be less noticeable.

Table 1 shows the summarized variability results corresponding to the **industry decomposition**. Two sets of results are shown; one set for each of the two respective aggregations of the **current price input structure**. The first set of results, in part A, pertain to the **aggregate input structure** whereas the second set, in part B, pertain to the fully **detailed input structure**. The latter set of results have been presented in previous reports and are included here again for comparison purposes. The summary measures reported in Table 1 include the overall variability of the input structure, as well as its **between** and **within** components, which are associated with the **industry decomposition**.

Looking at the variability results, for the one year time interval, we see that, by aggregating the input structure, the average overall entropy has been reduced by 72%, from 0.0148 to 0.0041 nits. Since the **between** component measures the variability between industries' shares of gross output, a structure that is unchanged by our aggregation of inputs, the average of this component is 0.0031 nits in both parts A and B of Table 1. The complete impact of aggregation on the variability of the input structure is, therefore, accounted for by the change in the **within** component, the average of which decreased 91% from 0.0117 to 0.0010 nits. The

Table 1: Summary Statistics of Variability Corresponding to an Industry Decomposition of the Current Price Input Structure at two contrasting levels of Aggregation, based on the 1961-1984 time series.

	One Year Interval			Two Year Interval			Five Year Interval		
	Between Industries	Within Industries	Total	Between Industries	Within Industries	Total	Between Industries	Within Industries	Total
				A) Aggregate Input Structure (intermediate inputs and GDP)					
Average Entropy	0.0031	0.0010	0.0041	0.0072	0.0019	0.0091	0.0174	0.0037	0.0211
Minimum Value	0.0014	0.0005	0.0019	0.0030	0.0006	0.0037	0.0102	0.0021	0.0124
Maximum Value	0.0073	0.0020	0.0088	0.0151	0.0041	0.0173	0.0275	0.0061	0.0321
Standard Deviation	0.0016	0.0004	0.0020	0.0035	0.0010	0.0043	0.0050	0.0012	0.0060
Shares of Total	75%	25%	100%	79%	21%	100%	83%	17%	100%
				B) Detailed Input Structure (602 commodities)					
Average Entropy	0.0031	0.0117	0.0148	0.0072	0.0230	0.0302	0.0174	0.0481	0.0655
Minimum Value	0.0014	0.0057	0.0073	0.0030	0.0101	0.0131	0.0102	0.0330	0.0432
Maximum Value	0.0073	0.0312	0.0352	0.0151	0.0490	0.0606	0.0275	0.0698	0.0928
Standard Deviation	0.0016	0.0054	0.0065	0.0035	0.0096	0.0125	0.0050	0.0118	0.0156
Shares of Total	21%	79%	100%	24%	76%	100%	27%	73%	100%

Table 2: Summary Statistics of Variability Corresponding to an Industry Decomposition of the Two-Input Constant Price Input Structure, based on the 1961-1984 time series, by decade.

	One Year Interval			Two Year Interval			Five Year Interval		
	Between Industries	Within Industries	Total	Between Industries	Within Industries	Total	Between Industries	Within Industries	Total
1961 - 1971									
Average Entropy	0.0020	0.0007	0.0027	0.0041	0.0013	0.0054	0.0132	0.0035	0.0167
Minimum Value	0.0012	0.0005	0.0018	0.0028	0.0008	0.0042	0.0104	0.0025	0.0146
Maximum Value	0.0039	0.0012	0.0051	0.0051	0.0021	0.0069	0.0163	0.0057	0.0203
Standard Deviation	0.0008	0.0003	0.0010	0.0008	0.0004	0.0010	0.0021	0.0013	0.0024
Shares of Total	73%	27%	100%	76%	24%	100%	79%	21%	100%
1971 - 1981									
Average Entropy	0.0023	0.0010	0.0032	0.0055	0.0019	0.0075	0.0143	0.0039	0.0182
Minimum Value	0.0013	0.0007	0.0020	0.0031	0.0015	0.0047	0.0114	0.0032	0.0151
Maximum Value	0.0042	0.0013	0.0054	0.0091	0.0027	0.0112	0.0220	0.0045	0.0261
Standard Deviation	0.0010	0.0002	0.0012	0.0020	0.0004	0.0023	0.0042	0.0005	0.0044
Shares of Total	70%	30%	100%	74%	26%	100%	79%	21%	100%
1981 - 1984									
Average Entropy	0.0040	0.0010	0.0050	0.0091	0.0019	0.0110			
Minimum Value	0.0035	0.0008	0.0044	0.0089	0.0016	0.0109			
Maximum Value	0.0044	0.0013	0.0055	0.0093	0.0022	0.0111			
Standard Deviation	0.0004	0.0003	0.0006	0.0003	0.0004	0.0001			
Shares of Total	80%	20%	100%	83%	17%	100%			

results in the row entitled, "shares of total", shown in part A of Table 1 indicate that, in the case of the **industry decomposition**, the **between** component is much more important than the **within** component in accounting for the variability of the **aggregate input structure**. The corresponding figures, however, in part B, indicate that the converse is true for the **detailed structure**. Finally, looking at the results across time intervals, both parts A and B of Table 1 reveal a tendency for all of the entropy components to increase with the length of the time interval.

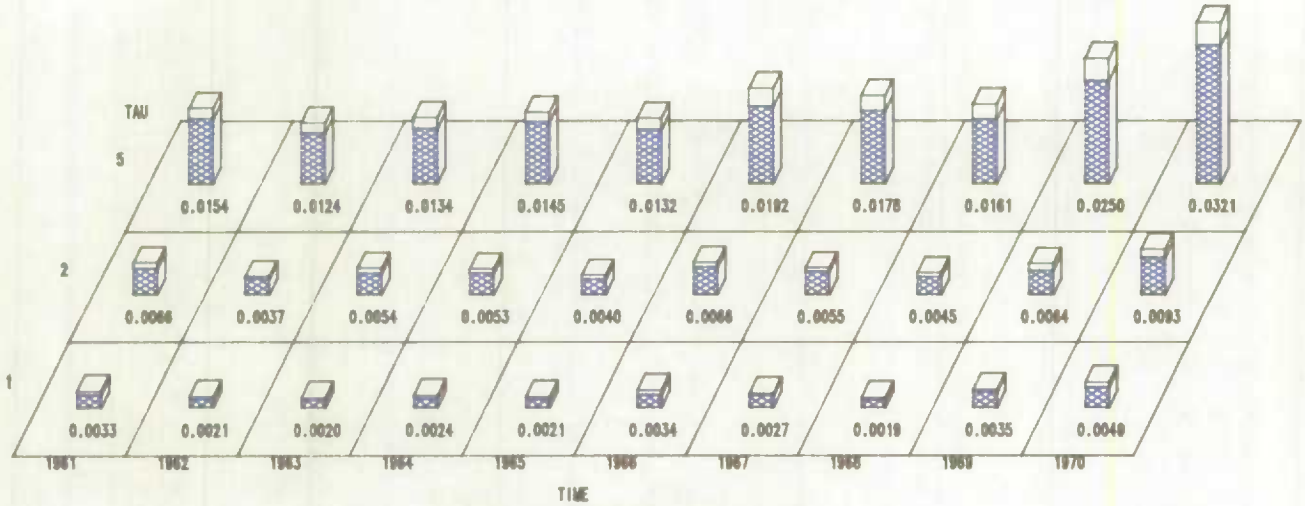
Table 2 provides a summary of the variability results, according to the **industry decomposition**, for the **constant price aggregate input structure**. Although these results are not directly comparable to those appearing in Part A of Table 1 (due to differences in the way the respective sets of results were compiled) we do notice some general similarities. The average entropy components associated with the **constant price aggregate input structure** seem to be of comparable magnitude to those associated with the **current price aggregate input structure**. Furthermore, looking at the "shares of total" in Table 2 we see that the variability **between** industries' constant price shares of gross output is again the more dominant source of variability, accounting for at least 70% of overall variability, and increasing slightly with the time interval. It is also evident from the results in Table 2 that average overall variability is lowest for the period 1961-1971, and highest for the period 1981-1984, for all three time intervals.

The time profile, for the 1961-1984 time period, of the **between** and **within** components of total variability for the **industry decomposition** of the **current price aggregate input structure** can be visualized on Graph 9. It is apparent from the graph that total variability tends to be slightly higher in the seventies and in the beginning of the eighties than in the sixties. However, these

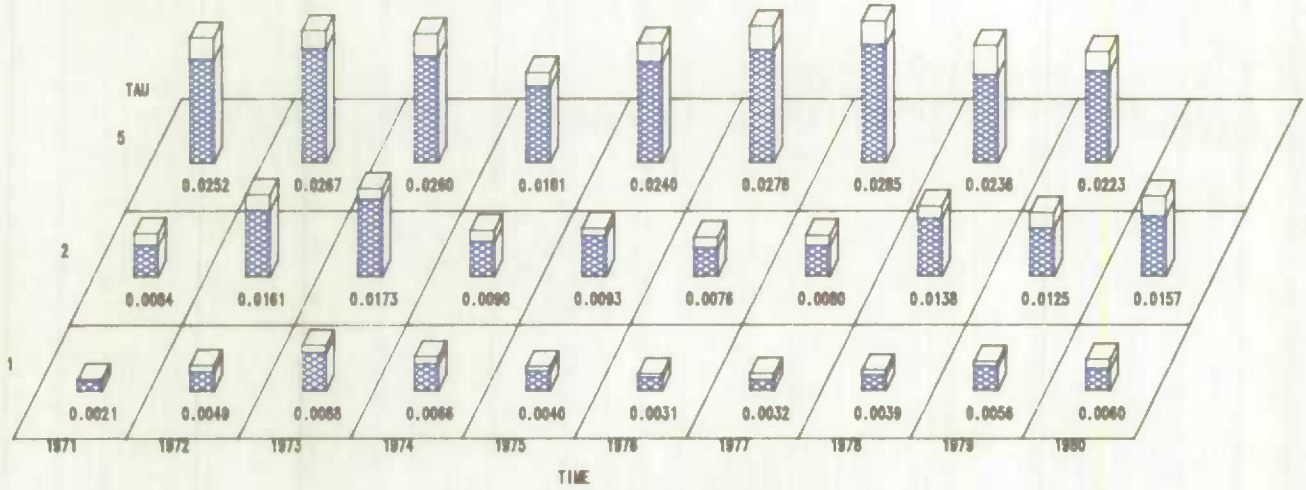
GRAPH 9

ENTROPY RESULTS FROM AN INDUSTRY DECOMPOSITION OF THE AGGREGATE CURRENT PRICE INPUT STRUCTURE

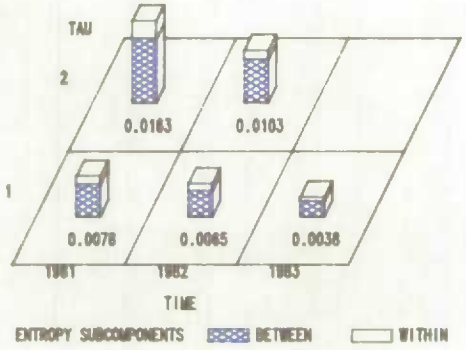
FOR THE TIME SERIES 1961–1971



FOR THE TIME SERIES 1971–1981



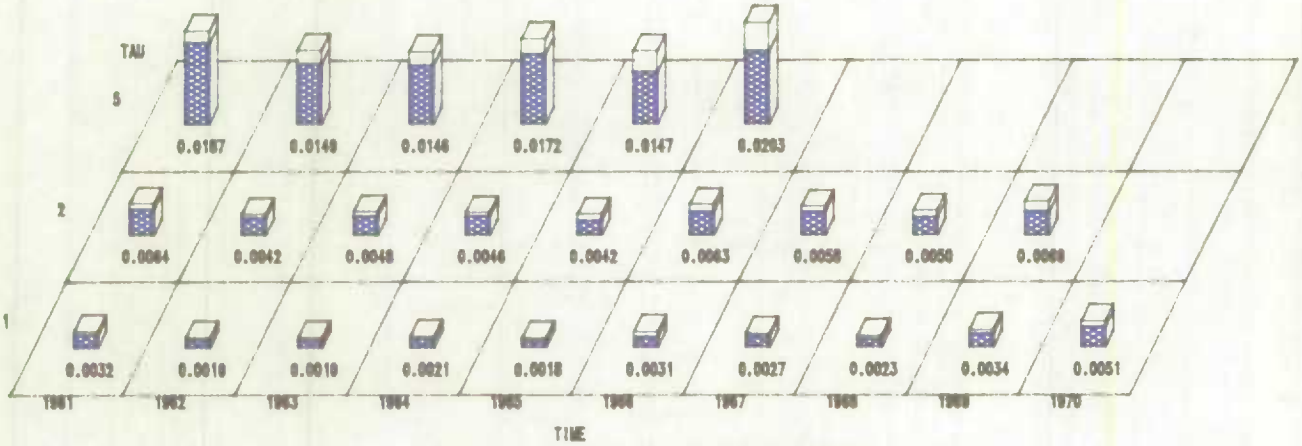
FOR THE TIME SERIES 1981–1984



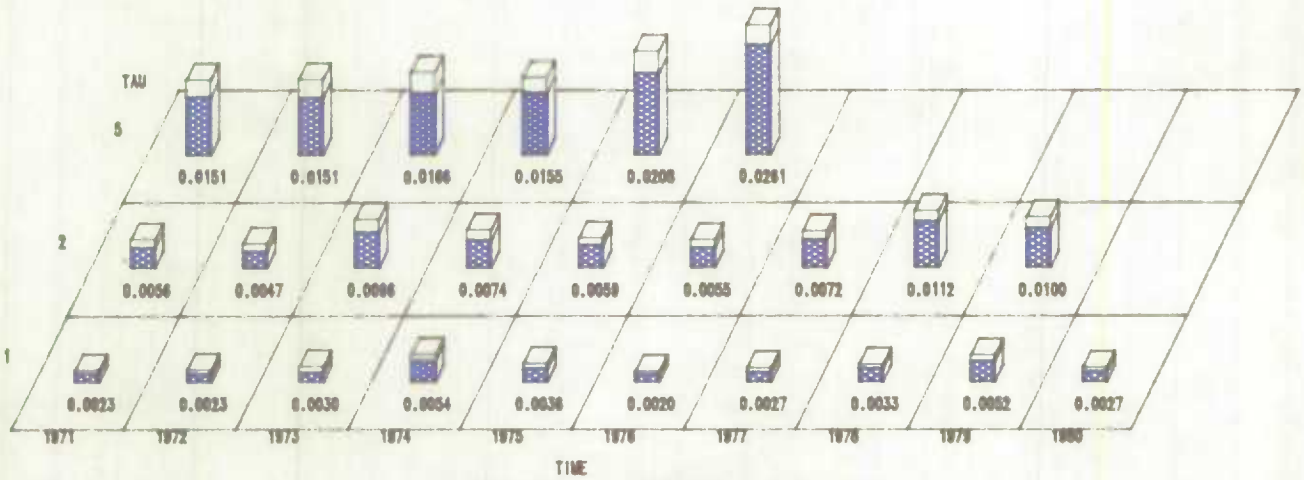
GRAPH 10

ENTROPY RESULTS FROM AN INDUSTRY DECOMPOSITION OF THE AGGREGATE CONSTANT PRICE INPUT STRUCTURE

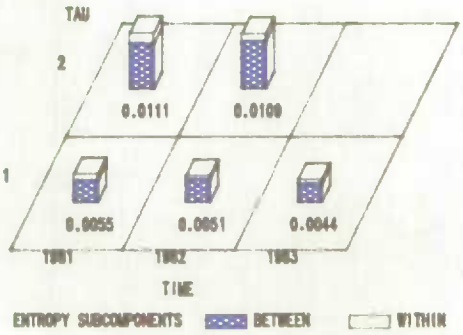
FOR THE TIME SERIES 1961–1971



FOR THE TIME SERIES 1971–1981



FOR THE TIME SERIES 1981–1984



differences are much less pronounced than the differences found in relation to the **current price detailed input structure.** As could be expected, we see again from Graph 9 that total variability tends to increase with the time interval. Furthermore, it is evident that the **between** component of variability is, without exception, the dominant source of variability for all time comparisons. Graph 10 which has the same scale as Graph 9, shows the corresponding time profile of variability for the **constant price aggregate input structure.**

2. Aggregate Commodity Decomposition Results

The **aggregate commodity decomposition** relates to a row partitioning of the **aggregate input structure**, as illustrated on page 3. Each of the two resulting substructures (of intermediate inputs and value added respectively) consists of 161 shares: one for each L level industry. A typical share in the intermediate input substructure corresponding to the jth industry, is given by:

$$\text{share } j = \frac{\text{industry j's use of aggregate intermediate inputs}}{\text{all industries use of intermediate inputs}}$$

Similarly, the share corresponding to the jth industry in the GDP substructure is given by:

$$\text{share } j = \frac{\text{GDP of industry j}}{\text{GDP of all industries}}$$

Reported in Table 3 are the summarized values of the raw aggregate commodity entropies, for the two **aggregate commodity substructures**, over the various time intervals. The results in Part A and B are based on the **current** and **constant price input structures** respectively. Looking at the average **raw entropy** values, for both

Table 3: Summary Entropy Statistics for the Two Substructures Associated with the Aggregate Commodity Decomposition of the Aggregate Input Structure

Input Substructure	One Year Interval Average	One Year Interval Maximum	Two Year Interval Average	Two Year Interval Maximum	Five Year Interval Average	Five Year Interval Maximum
A) Current Price Structure						
1961 - 1984						
Intermediate inputs	0.0035	0.0096	0.0049	0.0101	0.0197	0.0301
GDP	0.0049	0.0101	0.0104	0.0208	0.0224	0.0369
B) Constant Price Structure						
1961 - 1971						
Intermediate inputs	0.0021	0.0028	0.0043	0.0056	0.0131	0.0173
GDP	0.0035	0.0079	0.0066	0.0103	0.0209	0.0256
1971 - 1981						
Intermediate inputs	0.0024	0.0040	0.0057	0.0099	0.0139	0.0229
GDP	0.0041	0.0073	0.0092	0.0134	0.0227	0.0295
1981 - 1984						
Intermediate inputs	0.0044	0.0050	0.0058	0.0064		
GDP	0.0104	0.0115	0.0116	0.0129		

the current and constant price structures and all three time intervals, the intermediate input substructure is, in general, more stable than the value added substructure.

Graph 11 and 12 were produced to expose the time trends of variability for the **intermediate input** and **GDP substructures**, respectively. On these graphs, the variability results are shown simultaneously for both the **current** and **constant price** structures. Hence, for any time comparison, the total height of the box corresponds to the larger of the two entropy estimates, while the lower cube of the box corresponds to the remaining smaller estimate. Accordingly, the upper cube of the box represents the difference between these two estimates. Once again, it should be noted that the variability of the constant price structure was not calculated for any of the time comparisons straddling the years 1971 or 1981. Therefore, no results are shown on Graph 11 or 12 for the affected time comparisons.

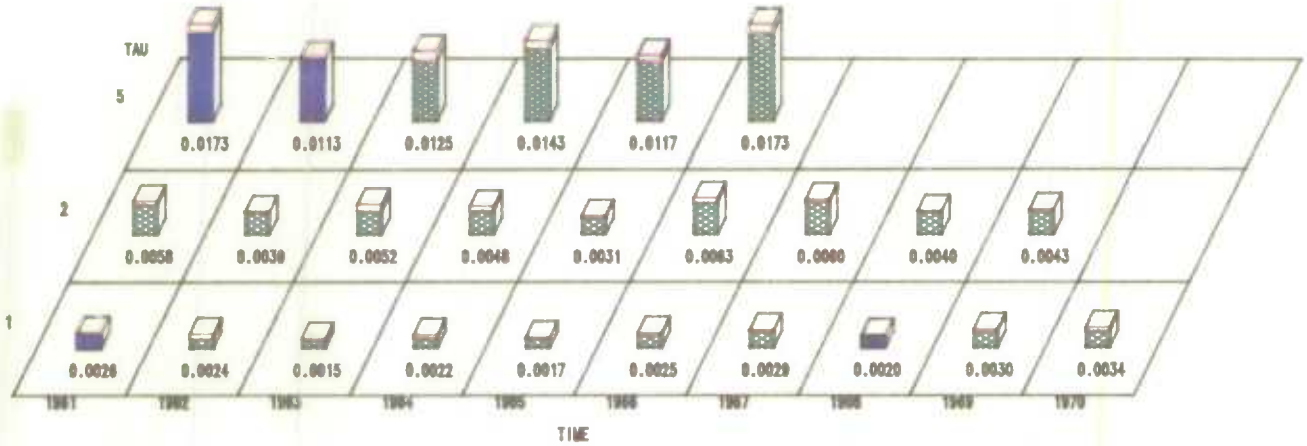
On Graph 11 we see that the variability of the **current price intermediate input structure** is almost always larger than that of the corresponding **constant price** structure. The differences between these estimates are generally quite small, although they are more noticeable in the seventies and the early eighties than in the sixties, especially for those time comparisons involving years in which changes in relative prices were significant (i.e. 1973 and 1980). Furthermore, there appears to be no obvious trend for variability to increase or decrease over time.

The above comments also apply to the variability results pertaining to the **structure of GDP** across **industries**, which are shown in Graph 12. However, we do notice from Graph 12 that in the sixties there are many more cases in which the variability of the **constant price** structure is larger than the variability of its **current price** counterpart.

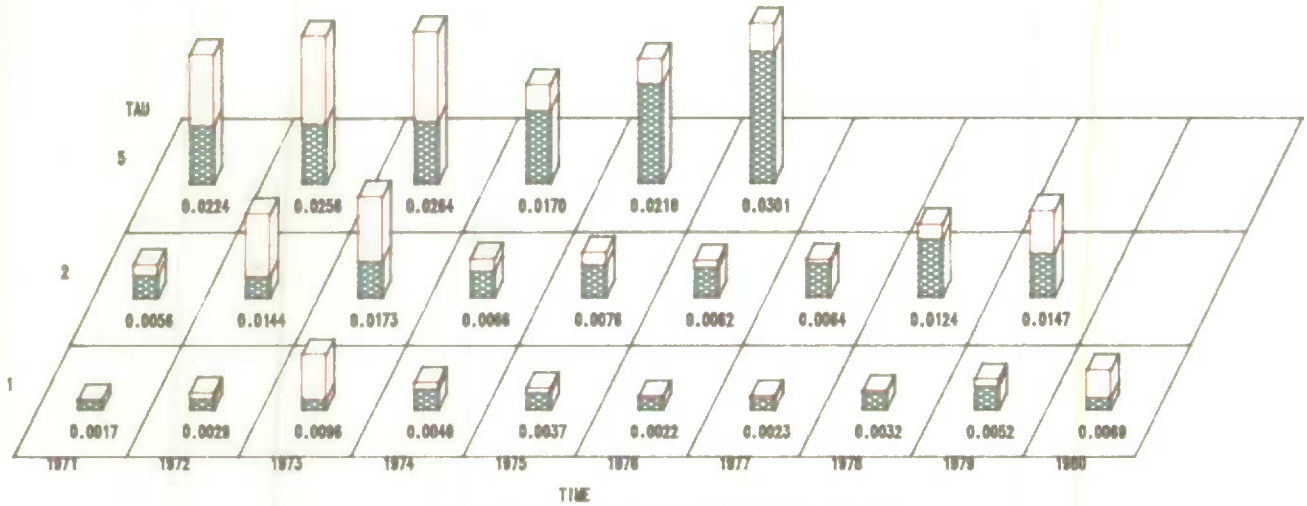
GRAPH 11

OVERLAY OF RAW ENTROPY RESULTS BASED ON THE RESPECTIVE CURRENT AND CONSTANT PRICE STRUCTURES OF INTERMEDIATE INPUTS ACROSS INDUTRIES

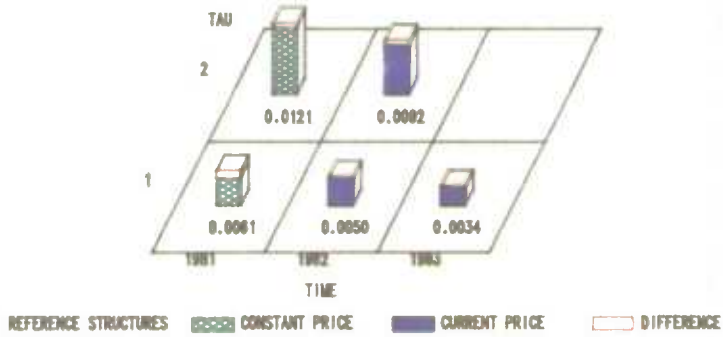
FOR THE TIME SERIES 1961–1971



FOR THE TIME SERIES 1971–1981



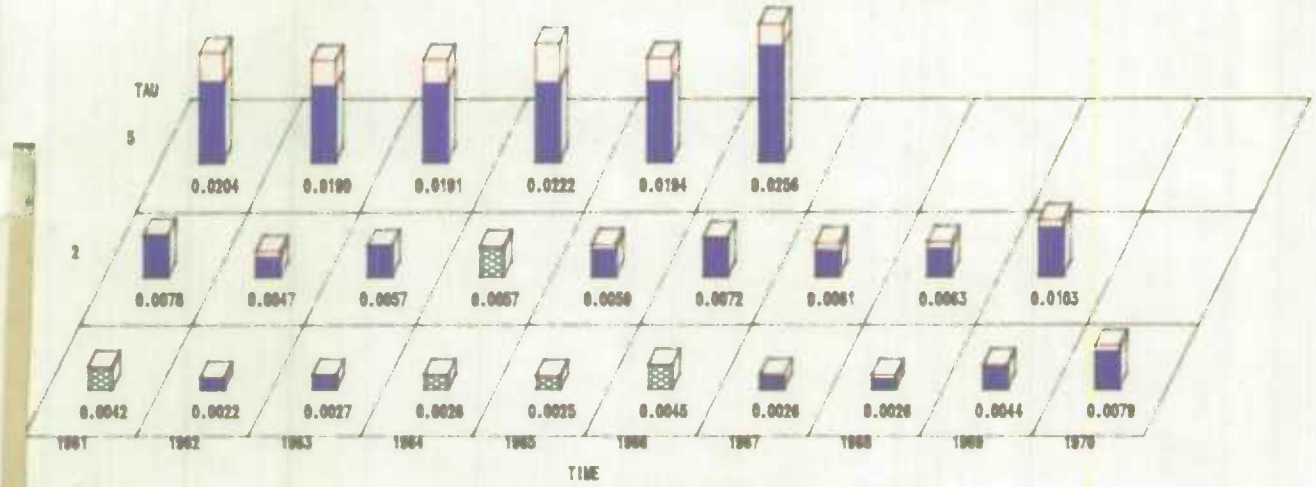
FOR THE TIME SERIES 1981–1984



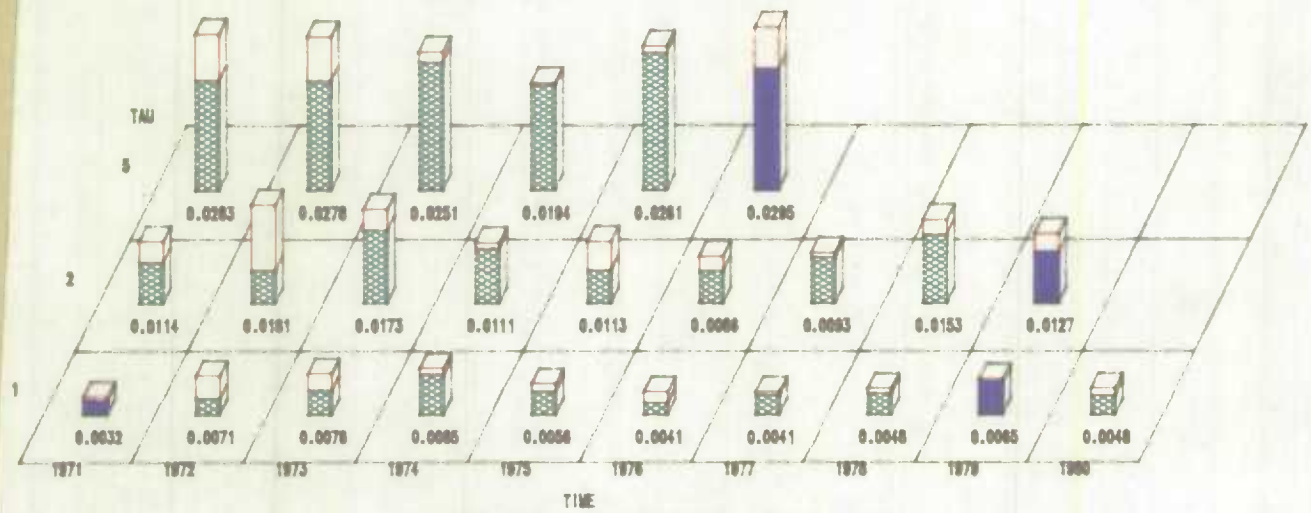
GRAPH 12

OVERLAY OF RAW ENTROPY RESULTS BASED ON THE RESPECTIVE CURRENT AND CONSTANT PRICE STRUCTURES OF VALUE ADDED ACROSS INDUSTRIES

FOR THE TIME SERIES 1961–1971



FOR THE TIME SERIES 1971–1981



FOR THE TIME SERIES 1981–1984

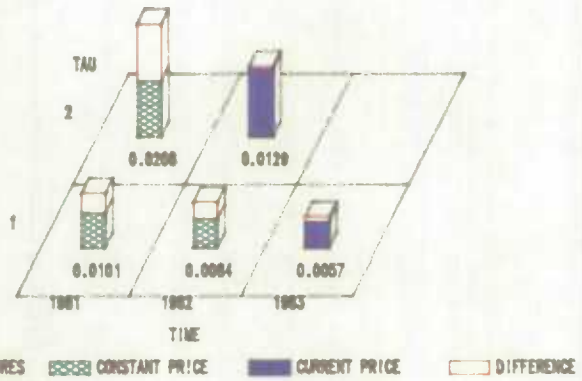


Table 4: Summary Statistics of Variability Corresponding to the Aggregate Commodity Decomposition of the Current Price Aggregate Input Structure, based on the 1961-1984 time series.

	One Year Interval			Two Year Interval			Five Year Interval		
	Between Industries	Within Industries	Total	Between Industries	Within Industries	Total	Between Industries	Within Industries	Total
Average Entropy	0.000033	0.004115	0.004148	0.000068	0.009081	0.009149	0.000134	0.020980	0.02114
Minimum Value	*	0.001903	0.001904	*	0.003710	0.003721	*	0.012391	0.01239
Maximum Value	0.000167	0.008661	0.008828	0.000309	0.017273	0.017278	0.001123	0.032065	0.03209
Standard Deviation	0.000046	0.001941	0.001970	0.000100	0.004287	0.004303	0.000274	0.005866	0.00597
Shares of Total	0.8%	99.2%	100.0%	0.7%	99.3%	100.0%	0.6%	99.4%	100.0%

* refers to negligible entropy values (i.e. < 0.0000005 nits)

Table 5: Summary Statistics of Variability Corresponding to the Aggregate Commodity Decomposition of the Constant Price - Aggregate Input Structure, based on the 1961-1984 time series, by decade.

	One Year Interval			Two Year Interval			Five Year Interval		
	Between Industries	Within Industries	Total	Between Industries	Within Industries	Total	Between Industries	Within Industries	Total
1961 - 1971									
Average Entropy	0.000000	0.002741	0.002748	0.000011	0.005350	0.005361	0.000025	0.016710	0.016735
Minimum Value	*	0.001769	0.001769	*	0.004206	0.004233	0.000001	0.014574	0.014584
Maximum Value	0.000027	0.005123	0.005123	0.000035	0.006868	0.006878	0.000051	0.020277	0.020317
Standard Deviation	0.000008	0.001025	0.001025	0.000012	0.001006	0.001002	0.000022	0.002420	0.002416
Shares of Total	0.3%	99.7%	100.0%	0.2%	99.8%	100.0%	0.1%	99.9%	100.0%
1971 - 1981									
Average Entropy	0.000039	0.003206	0.003245	0.000098	0.007362	0.007460	0.000148	0.018047	0.018195
Minimum Value	*	0.001988	0.001989	0.000002	0.004729	0.004731	0.000009	0.014675	0.015067
Maximum Value	0.000104	0.005286	0.005359	0.000335	0.011181	0.011246	0.000392	0.026042	0.026084
Standard Deviation	0.000041	0.001160	0.001169	0.000106	0.002306	0.002314	0.000171	0.004523	0.004433
Shares of Total	1.2%	98.8%	100.0%	1.3%	98.7%	100.0%	0.8%	99.2%	100.0%
1981 - 1984									
Average Entropy	0.000015	0.005005	0.005020	0.000043	0.010932	0.010976			
Minimum Value	0.000003	0.004409	0.004412	0.000016	0.010874	0.010890			
Maximum Value	0.000037	0.005472	0.005509	0.000071	0.010990	0.011062			
Standard Deviation	0.000019	0.000543	0.000558	0.000039	0.000082	0.000121			
Shares of Total	0.3%	99.7%	100.0%	0.4%	99.6%	100.0%			

* refers to negligible entropy values (i.e. < 0.0000005 nits)

Tables 4 and 5 show the usual summary results of variability, based on the **aggregate commodity decomposition**, corresponding to the respective **current and constant price aggregate input structures.** We see from both tables that the **between** component of variability is negligible for all time intervals (and decades - in the case of the constant price structure). This entropy component measures the variability of the two-element structure given by:

$$\left(\frac{\text{intermediate inputs used by all industries}}{\text{gross output of all industries}} \quad , \quad \frac{\text{GDP of all industries}}{\text{gross output of all industries}} \right)$$

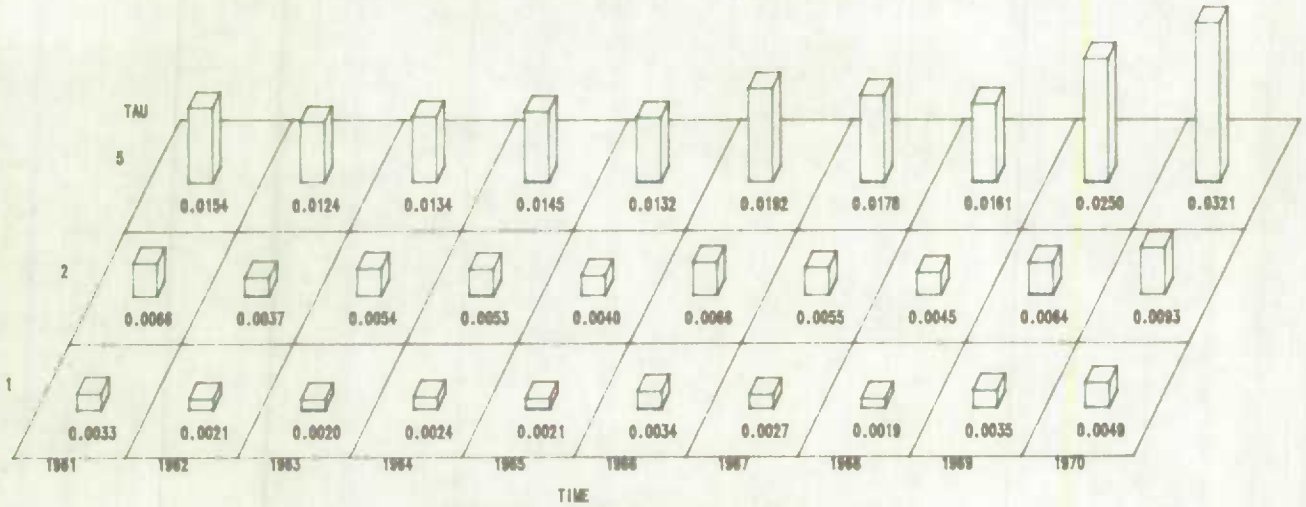
Even when considering the maximum entropy values encountered for the **between** component, it is evident that the above structure is extremely stable through time, in the case of both current and constant price structures. In fact, more than 99% of the total variability of the **aggregate input structure** is explained by the **within** component of the **aggregate commodity decomposition.** This implies that, given an estimate of aggregate business sector valued added, the value of aggregate intermediate inputs could be estimated with a high degree of accuracy and therefore so could the value of aggregate gross output. These aggregate control totals could then be used to estimate more disaggregate input structures.

Finally, Graphs 13 and 14 show the time profile of the variability results that are associated with the **aggregate commodity decomposition**, for the respective **current** and **constant price aggregate input structures.** (Both of these graphs have been produced with the same scale). The overall variability results, appearing below the boxes in these graphs are identical to the corresponding values appearing on Graphs 9 and 10. However, these

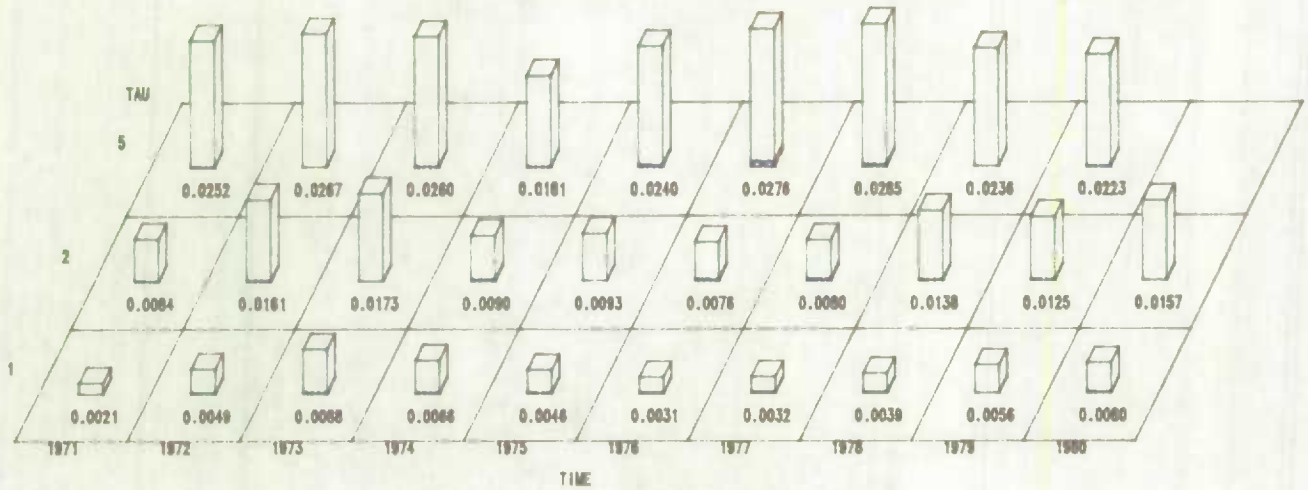
GRAPH 13

ENTROPY RESULTS FROM AN AGGREGATE COMMODITY DECOMPOSITION OF THE AGGREGATE CURRENT PRICE INPUT STRUCTURE

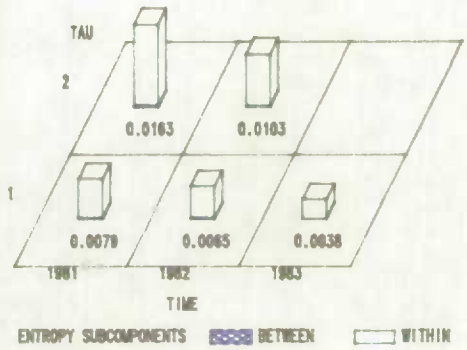
FOR THE TIME SERIES 1961–1971



FOR THE TIME SERIES 1971–1981



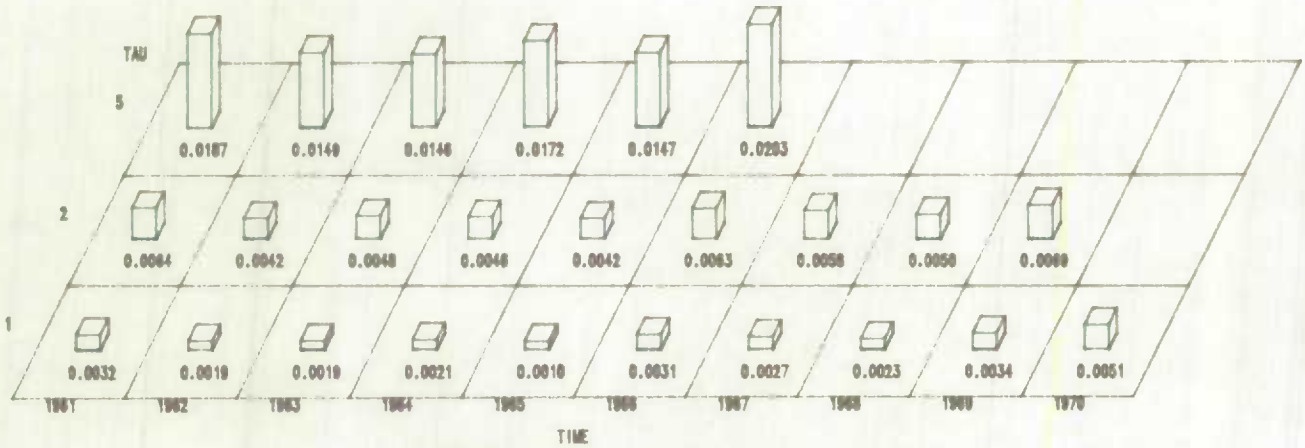
FOR THE TIME SERIES 1981–1984



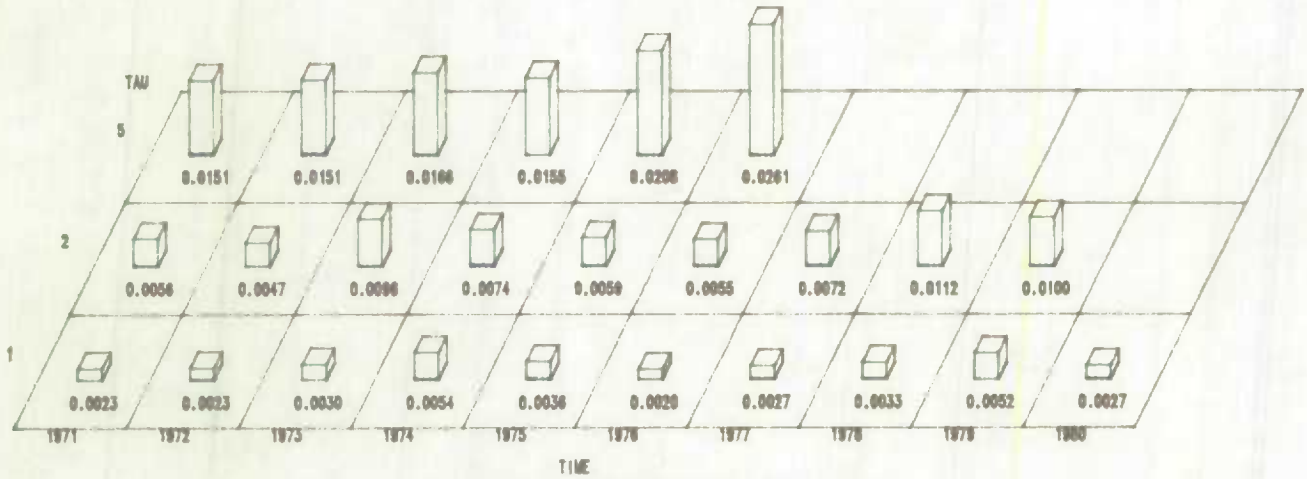
GRAPH 14

ENTROPY RESULTS FROM AN AGGREGATE COMMODITY DECOMPOSITION OF THE AGGREGATE CONSTANT PRICE INPUT STRUCTURE

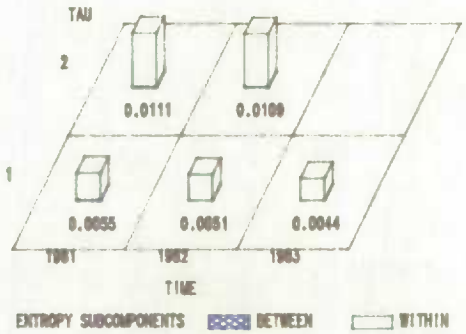
FOR THE TIME SERIES 1961–1971



FOR THE TIME SERIES 1971–1981



FOR THE TIME SERIES 1981–1984



graphs serve to reinforce the results in Tables 4 and 5, as the **between** component is barely visible for any of the time comparisons.

3. Conclusions and Implications

It should be emphasized here that, in a reduced-information scenario, a slowly changing structure would be much easier to predict than a rapidly changing one. However, even if a structure is found to be highly variable over time, such a structure might still be predicted with very good precision if the structure can first be partitioned into a set of mutually exclusive substructures; each one containing elements that are perfectly homogeneous in terms of their variability over time. Consider, for example, a hypothetical structure containing the shares (0.20, 0.40, 0.10, 0.30) in time t, whose corresponding shares in time t+k became (0.30, 0.20, 0.05, 0.45). A pairwise comparison of the shares contained in this structure over the interval (t,t+k) reveals that a partitioning is possible that divides this structure into two mutually exclusive substructures; each containing two shares that are perfectly homogeneous in terms of their variability. The first substructure would contain the first and the fourth share, both of which have increased identically by 50% over the interval (t,t+k); the remaining substructure would contain the second and the third share, both of which have decreased identically by 50%.

If a chosen decomposition of a structure were to inadvertently result in a partitioning that resembled the one described above, then the corresponding decomposition results would reveal that close to 100% of the variability of the original structure is attributable to the variability **between** the substructures. This would mean that, in order to forecast the structure precisely, information would only be required at the substructure level.

Information pertaining to the elements contained **within** any of the substructures would therefore not be required assuming, of course, that these substructures would continue to be perfectly stable. Therefore, the extent to which the information could be reduced, without having a substantial impact on the quality of results, would be directly related to the number of homogeneous substructures that could be defined. Furthermore, at the practical level, the feasibility of acquiring information for the substructures identified as part of the reduced set of information would have to be considered.

In light of the previous comments, the usefulness of examining the variability of the **aggregate input structure**, under alternate decompositions, becomes apparent, considering that one objective is to predict this structure accurately in a reduced-information scenario. In general, the results from a decomposition can be categorized into three groups of results, pertaining to the following: 1) the variability of the original structure; 2) the variability **between** the substructures; and 3) the variability **within** the substructures. Keeping in mind that the total variability of a structure is constant regardless of how a decomposition is defined, the first category of results will be invariant to the decomposition chosen. However, it is the remaining two groups of results which help us to evaluate what the impact would be in specific scenarios of reduced information. In particular, the results from the two decompositions just applied tell us how much confidence we should place on the respective marginal totals of the aggregate input structure for the purpose of predicting GDP by industry.

Summarizing the results obtained, it was found that the **between** entropy component from the industry decomposition accounted for an extremely large proportion of the overall variability, whereas the same component from the input decomposition was quite insignificant

as a proportion of overall variability. A further implication of the decomposition results is that the aggregate commodity substructures are much less stable than the industry substructures, which are extremely stable. Consequently, a much higher value should be placed on obtaining the marginal column totals (,which amounts to obtaining information at the level of the industry substructures) relative to the value of obtaining the marginal row totals (or all industries' use of intermediate inputs and value added by all industries) for prediction purposes. This result is not very surprising, considering that the structure of marginal row totals contains only two elements in contrast to the structure of marginal column totals, which contains 161. In other words, it seems quite reasonable to expect the larger structure, of marginal column totals, to have the larger information content.

An additional conclusion can be made by contrasting the variability results presented here for the industry decomposition with the corresponding results, presented in previous progress reports, for the L level input structure. In particular, by contrasting these two sets of variability results for the detailed and aggregate industry substructures, respectively, it is evident that the latter structures generally exhibit a much higher degree of stability. This strongly suggests that the task of making good predictions of GDP by industry would be much less demanding, in terms of the information requirements, than that of predicting detailed industry structures, since in the latter case, having information concerning the marginal row totals would be of a much greater marginal benefit. The above comments apply equally to both the current and the constant price valuations.

APPENDIX 1

Descriptive Summary Report of Entropy Results

Corresponding to an Industry Decomposition of the

Aggregate Current Price Input Structure,

for One, Two, and Five Year Time Intervals.

DESCRIPTIVE SUMMARY REPORT OF ENTROPY RESULTS
FROM AN INDUSTRY DECOMPOSITION OF THE CURRENT PRICE
AGGREGATE INPUT STRUCTURE* FOR 1961-1984

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL		FIVE YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
1 AGRICULTURAL & RELATED SERVICES IND	0.0026	0.0178	0.0048	0.0226	0.0103	0.0467
2 FISHING & TRAPPING INDUSTRIES	0.0019	0.0126	0.0040	0.0259	0.0042	0.0257
3 LOGGING & FORESTRY INDUSTRIES	0.0004	0.0020	0.0008	0.0038	0.0018	0.0077
4 GOLD MINES	0.0044	0.0337	0.0111	0.0527	0.0097	0.0545
5 OTHER METAL MINES	0.0060	0.0427	0.0152	0.0836	0.0116	0.0377
6 IRON MINES	0.0031	0.0118	0.0067	0.0228	0.0136	0.0853
7 ASBESTOS MINES	0.0019	0.0112	0.0038	0.0289	0.0100	0.0441
8 NON-METAL MINES EX COAL & ASBESTOS	0.0063	0.0452	0.0133	0.0893	0.0286	0.1028
9 SALT MINES	0.0010	0.0051	0.0013	0.0051	0.0031	0.0163
10 COAL MINES	0.0084	0.0519	0.0210	0.1447	0.0338	0.2020
11 CRUDE PETROLEUM & NATURAL GAS	0.0011	0.0086	0.0017	0.0084	0.0042	0.0213
12 QUARRY & SAND PIT INDUSTRIES	0.0008	0.0036	0.0021	0.0130	0.0044	0.0177
13 SERVICE RELATED TO MINERAL EXTRACT.	0.0015	0.0050	0.0032	0.0111	0.0059	0.0376
14 MEAT & MEAT PRODUCTS (EXC. POULTRY)	0.0007	0.0030	0.0013	0.0050	0.0017	0.0070
15 POULTRY PRODUCTS INDUSTRY	0.0007	0.0081	0.0012	0.0108	0.0028	0.0113
16 FISH PRODUCTS INDUSTRY	0.0007	0.0064	0.0015	0.0084	0.0044	0.0264
17 FRUIT AND VEGETABLE INDUSTRIES	0.0008	0.0038	0.0017	0.0114	0.0019	0.0148
18 DAIRY PRODUCTS INDUSTRIES	0.0003	0.0021	0.0006	0.0023	0.0006	0.0029
19 FEED INDUSTRY	0.0012	0.0124	0.0023	0.0164	0.0039	0.0222
20 VEGETABLE OIL MILLS (EXC. CORN OIL)	0.0030	0.0301	0.0072	0.0656	0.0090	0.0462
21 BISCUIT INDUSTRY	0.0013	0.0085	0.0024	0.0146	0.0036	0.0155
22 BREAD & OTHER BAKERY PRODUCTS IND.	0.0004	0.0011	0.0009	0.0030	0.0011	0.0053
23 CANE & BEET SUGAR INDUSTRY	0.0216	0.1107	0.0473	0.3142	0.0290	0.1324
24 MISC. FOOD PRODUCTS INDUSTRIES	0.0011	0.0127	0.0023	0.0153	0.0034	0.0104
25 SOFT DRINK INDUSTRY	0.0011	0.0075	0.0023	0.0115	0.0046	0.0173
26 DISTILLERY PRODUCTS INDUSTRY	0.0008	0.0060	0.0015	0.0098	0.0046	0.0135
27 BREWERY PRODUCTS INDUSTRY	0.0005	0.0041	0.0012	0.0118	0.0024	0.0125
28 WINE INDUSTRY	0.0022	0.0164	0.0031	0.0147	0.0062	0.0222
29 TOBACCO PRODUCTS INDUSTRIES	0.0011	0.0037	0.0015	0.0057	0.0033	0.0200
30 RUBBER PRODUCTS INDUSTRIES	0.0004	0.0025	0.0010	0.0045	0.0019	0.0058
31 PLASTIC PRODUCTS INDUSTRIES	0.0005	0.0030	0.0011	0.0056	0.0032	0.0089
32 LEATHER TANNERIES	0.0091	0.0408	0.0160	0.0438	0.0119	0.0641
33 FOOTWEAR INDUSTRY	0.0005	0.0023	0.0008	0.0045	0.0010	0.0045
34 MISC. LEATHER & ALLIED PROD. IND.	0.0003	0.0018	0.0006	0.0039	0.0015	0.0068
35 MAN-MADE FIBRE YARN & WOVEN CLOTH	0.0006	0.0049	0.0008	0.0036	0.0012	0.0052
36 WOOL YARN & WOVEN CLOTH INDUSTRY	0.0015	0.0104	0.0031	0.0218	0.0091	0.0349
37 BROAD KNITTED FABRIC INDUSTRY	0.0008	0.0046	0.0008	0.0057	0.0015	0.0065
38 MISC. TEXTILE PRODUCTS INDUSTRIES	0.0004	0.0034	0.0007	0.0042	0.0013	0.0040
39 CONTRACT TEXTILE DYEING & FINISHING	0.0033	0.0169	0.0048	0.0255	0.0113	0.0520
40 CARPET, MAT & RUG INDUSTRY	0.0022	0.0096	0.0018	0.0081	0.0031	0.0162
41 CLOTHING INDUSTRIES EXC. HOSIERY	0.0001	0.0012	0.0002	0.0011	0.0004	0.0014
42 HOSIERY INDUSTRY	0.0006	0.0039	0.0012	0.0062	0.0011	0.0061
43 SAWMILLS, PLANING & SHINGLE MILLS	0.0019	0.0102	0.0041	0.0117	0.0038	0.0373
44 VENEER AND PLYWOOD INDUSTRIES	0.0016	0.0052	0.0016	0.0110	0.0019	0.0073
45 SASH, DOOR & OTHER MILLWORK IND.	0.0007	0.0022	0.0013	0.0057	0.0014	0.0050
46 WOODEN BOX & COFFIN INDUSTRIES	0.0010	0.0073	0.0014	0.0074	0.0018	0.0054
47 OTHER WOOD INDUSTRIES	0.0018	0.0109	0.0029	0.0224	0.0035	0.0303

*THIS STRUCTURE CONSISTS OF TWO INPUT AGGREGATES: 1)INTERMEDIATE INPUTS; AND 2) GDP FACTOR COST

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AGGREGATE INPUT STRUCTURE* FOR 1961-1984

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL		FIVE YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
48 HOUSEHOLD FURNITURE INDUSTRIES	0.0002	0.0018	0.0003	0.0017	0.0007	0.0028
49 OFFICE FURNITURE INDUSTRIES	0.0007	0.0022	0.0007	0.0033	0.0011	0.0049
50 OTHER FURNITURE & FIXTURE IND.	0.0003	0.0015	0.0004	0.0019	0.0004	0.0024
51 PULP & PAPER INDUSTRIES	0.0012	0.0085	0.0030	0.0151	0.0041	0.0114
52 ASPHALT ROOFING INDUSTRY	0.0019	0.0104	0.0022	0.0075	0.0042	0.0245
53 PAPER BOX & BAG INDUSTRIES	0.0002	0.0011	0.0004	0.0018	0.0015	0.0054
54 OTHER CONVERTED PAPER PRODUCTS IND.	0.0006	0.0043	0.0009	0.0032	0.0030	0.0130
55 PRINTING & PUBLISHING IND.	0.0001	0.0008	0.0002	0.0009	0.0005	0.0024
56 PLATEMAKING, TYPESETTING & BINDERY	0.0003	0.0015	0.0006	0.0022	0.0025	0.0088
57 PRIMARY STEEL INDUSTRIES	0.0010	0.0115	0.0017	0.0181	0.0050	0.0159
58 STEEL PIPE & TUBE INDUSTRY	0.0014	0.0072	0.0023	0.0129	0.0022	0.0124
59 IRON FOUNDRIES	0.0008	0.0063	0.0016	0.0139	0.0019	0.0065
60 NON-FERROUS SMELTING & REFINING IND	0.0018	0.0124	0.0028	0.0247	0.0044	0.0359
61 ALUMINUM ROLLING CASTING, EXTRUDING	0.0084	0.0594	0.0077	0.0294	0.0192	0.1183
62 COPPER ROLLING CASTING & EXTRUDING	0.0038	0.0176	0.0046	0.0202	0.0063	0.0377
63 OTHER METAL ROLLING, CASTING ETC.	0.0013	0.0063	0.0025	0.0104	0.0041	0.0208
64 POWER BOILER & STRUCT. METAL IND.	0.0006	0.0035	0.0010	0.0051	0.0030	0.0133
65 ORNAMENTAL & ARCH. METAL PROD. IND.	0.0003	0.0013	0.0006	0.0026	0.0009	0.0044
66 STAMPED, PRESSED & COATED METALS	0.0009	0.0080	0.0016	0.0186	0.0038	0.0239
67 WIRE AND WIRE PRODUCTS INDUSTRIES	0.0008	0.0035	0.0011	0.0062	0.0014	0.0042
68 HARDWARE, TOOL & CUTLERY INDUSTRIES	0.0004	0.0039	0.0007	0.0047	0.0011	0.0037
69 HEATING EQUIPMENT INDUSTRY	0.0004	0.0028	0.0008	0.0061	0.0015	0.0072
70 MACHINE SHOPS INDUSTRY	0.0004	0.0019	0.0008	0.0042	0.0024	0.0097
71 OTHER METAL FABRICATING INDUSTRIES	0.0006	0.0021	0.0007	0.0029	0.0006	0.0017
72 AGRICULTURE IMPLEMENT INDUSTRY	0.0011	0.0052	0.0018	0.0083	0.0027	0.0149
73 COMMERCIAL REFRIGERATION EQUIPMENT	0.0016	0.0102	0.0028	0.0136	0.0018	0.0069
74 OTHER MACHINERY & EQUIPMENT IND.	0.0002	0.0016	0.0005	0.0024	0.0008	0.0032
75 AIRCRAFT & AIRCRAFT PARTS INDUSTRY	0.0032	0.0214	0.0031	0.0285	0.0028	0.0177
76 MOTOR VEHICLE INDUSTRY	0.0021	0.0178	0.0040	0.0281	0.0084	0.0309
77 TRUCK, BUS BODY & TRAILER INDUSTRY	0.0008	0.0048	0.0011	0.0068	0.0022	0.0142
78 MOTOR VEHICLE PARTS & ACCESSORIES	0.0003	0.0011	0.0004	0.0016	0.0005	0.0015
79 RAILROAD ROLLING STOCK INDUSTRY	0.0062	0.0508	0.0111	0.0805	0.0092	0.0574
80 SHIPBUILDING AND REPAIR INDUSTRY	0.0023	0.0295	0.0031	0.0422	0.0033	0.0268
81 MISC. TRANSPORTATION EQUIPMENT IND.	0.0026	0.0140	0.0030	0.0160	0.0048	0.0163
82 SMALL ELECTRICAL APPLIANCE INDUSTRY	0.0010	0.0082	0.0019	0.0117	0.0019	0.0157
83 MAJOR APPLIANCES (ELEC & NON-ELEC.)	0.0014	0.0096	0.0013	0.0084	0.0016	0.0055
84 RECORD PLAYERS, RADIO & TV RECEIVER	0.0044	0.0388	0.0071	0.0409	0.0101	0.0252
85 ELECTRONIC EQUIPMENT INDUSTRIES	0.0013	0.0069	0.0020	0.0114	0.0039	0.0172
86 OFFICE, STORE & BUSINESS MACHINES	0.0105	0.1820	0.0214	0.1853	0.0424	0.1553
87 COMMUNICATIONS, ENERGY WIRE & CABLE	0.0016	0.0080	0.0028	0.0120	0.0048	0.0212
88 BATTERY INDUSTRY	0.0022	0.0162	0.0026	0.0259	0.0042	0.0288
89 OTHER ELECT. & ELECTRONIC PRODUCTS	0.0004	0.0029	0.0006	0.0026	0.0007	0.0039
90 CLAY PRODUCTS INDUSTRY	0.0009	0.0063	0.0016	0.0103	0.0037	0.0247
91 CEMENT INDUSTRY	0.0013	0.0101	0.0023	0.0130	0.0042	0.0147
92 CONCRETE PRODUCTS INDUSTRY	0.0005	0.0022	0.0011	0.0068	0.0019	0.0076
93 READY-MIX CONCRETE INDUSTRY	0.0013	0.0087	0.0020	0.0101	0.0072	0.0291
94 GLASS & GLASS PRODUCTS INDUSTRIES	0.0004	0.0019	0.0010	0.0033	0.0033	0.0093

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AGGREGATE INPUT STRUCTURE* FOR 1961-1984

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL		FIVE YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
95 NON-METALIC MINERAL PRODUCTS NEC	0.0005	0.0030	0.0011	0.0049	0.0027	0.0102
96 REFINED PETROLEUM & COAL PRODUCTS	0.0030	0.0143	0.0031	0.0198	0.0075	0.0250
97 INDUSTRIAL CHEMICALS INDUSTRIES NEC	0.0010	0.0047	0.0022	0.0097	0.0091	0.0249
98 PLASTIC & SYNTHETIC RESIN INDUSTRY	0.0031	0.0130	0.0065	0.0344	0.0134	0.0461
99 PHARMACEUTICAL & MEDICINE INDUSTRY	0.0005	0.0023	0.0011	0.0040	0.0029	0.0082
100 PAINT AND VARNISH INDUSTRY	0.0005	0.0047	0.0012	0.0076	0.0024	0.0170
101 SOAP & CLEANING COMPOUNDS INDUSTRY	0.0013	0.0080	0.0021	0.0108	0.0036	0.0111
102 TOILET PREPARATIONS INDUSTRY	0.0008	0.0040	0.0014	0.0057	0.0018	0.0070
103 CHEMICAL & CHEMICAL PRODUCTS NEC	0.0005	0.0026	0.0008	0.0050	0.0015	0.0084
104 JEWELLERY & PRECIOUS METAL IND.	0.0072	0.0316	0.0157	0.0859	0.0177	0.0775
105 SPORTING GOODS & TOY INDUSTRIES	0.0006	0.0018	0.0003	0.0021	0.0007	0.0024
106 SIGN AND DISPLAY INDUSTRY	0.0005	0.0031	0.0008	0.0039	0.0013	0.0039
107 FLOOR TILE, LINOLEUM, COATED FABRIC	0.0031	0.0179	0.0037	0.0164	0.0091	0.0255
108 OTHER MANUFACTURING INDUSTRIES NEC	0.0006	0.0023	0.0010	0.0051	0.0015	0.0055
109 REPAIR CONSTRUCTION	0.0007	0.0072	0.0019	0.0118	0.0048	0.0203
110 RESIDENTIAL CONSTRUCTION	0.0013	0.0067	0.0035	0.0127	0.0063	0.0375
111 NON-RESIDENTIAL BLDG. CONSTRUCTION	0.0004	0.0029	0.0009	0.0044	0.0025	0.0076
112 ROAD, HIGHWAY & AIRSTRIP CONST.	0.0005	0.0039	0.0011	0.0061	0.0030	0.0074
113 GAS & OIL FACILITY CONSTRUCTION	0.0013	0.0047	0.0033	0.0131	0.0058	0.0347
114 DAMS & IRRIGATION PROJECTS	0.0023	0.0151	0.0059	0.0395	0.0145	0.0716
115 RAILWAY & TELEPHONE TELEGRAPH CONST	0.0007	0.0066	0.0013	0.0085	0.0033	0.0179
116 OTHER ENGINEERING CONSTRUCTION	0.0006	0.0041	0.0012	0.0029	0.0056	0.0132
117 CONSTRUCTION, OTHER ACTIVITIES	0.0004	0.0026	0.0007	0.0045	0.0012	0.0047
118 AIR TRANSPORT & SERVICES INCIDENTAL	0.0009	0.0069	0.0021	0.0088	0.0053	0.0194
119 RAILWAY TRANSPORT & REL. SERVICES	0.0008	0.0033	0.0022	0.0104	0.0073	0.0355
120 WATER TRANSPORT & REL. SERVICES	0.0012	0.0038	0.0031	0.0089	0.0110	0.0374
121 TRUCK TRANSPORT INDUSTRIES	0.0004	0.0041	0.0011	0.0082	0.0024	0.0120
122 URBAN TRANSIT SYSTEM INDUSTRY	0.0009	0.0070	0.0023	0.0147	0.0089	0.0435
123 INTERURBAN & RURAL TRANSIT SYSTEMS	0.0013	0.0058	0.0026	0.0078	0.0038	0.0130
124 TAXICAB INDUSTRY	0.0004	0.0032	0.0007	0.0055	0.0014	0.0078
125 OTHER TRANSPORT & SERV. TO TRANSP.	0.0010	0.0045	0.0014	0.0084	0.0013	0.0036
126 HIGHWAY & BRIDGE MAINTENANCE IND.	0.0019	0.0113	0.0031	0.0111	0.0100	0.0457
127 PIPELINE TRANSPORT INDUSTRIES	0.0017	0.0173	0.0041	0.0221	0.0157	0.0515
128 STORAGE AND WAREHOUSING INDUSTRIES	0.0007	0.0066	0.0012	0.0091	0.0021	0.0226
129 TELECOMMUNICATION BROADCASTING IND.	0.0005	0.0049	0.0010	0.0076	0.0019	0.0110
130 TELECOMMUNICATION CARRIERS & OTHER	0.0001	0.0007	0.0003	0.0014	0.0008	0.0028
131 POSTAL SERVICE INDUSTRY	0.0017	0.0077	0.0033	0.0173	0.0039	0.0166
132 ELECTRIC POWER SYSTEMS INDUSTRY	0.0004	0.0014	0.0008	0.0045	0.0012	0.0032
133 GAS DISTRIBUTION SYSTEMS INDUSTRY	0.0007	0.0026	0.0015	0.0077	0.0018	0.0065
134 OTHER UTILITY INDUSTRIES NEC	0.0044	0.0324	0.0051	0.0305	0.0074	0.0212
135 WHOLESALE TRADE INDUSTRIES	0.0002	0.0011	0.0004	0.0018	0.0008	0.0018
136 RETAIL TRADE INDUSTRIES	0.0001	0.0006	0.0004	0.0020	0.0009	0.0031
137 BANKS, CREDIT UNION & OTH. DEP INST	0.0004	0.0015	0.0010	0.0033	0.0026	0.0147
138 TRUST, OTHER FINANCE & REAL ESTATE	0.0008	0.0071	0.0010	0.0094	0.0007	0.0058
139 INSURANCE INDUSTRIES	0.0029	0.0129	0.0061	0.0276	0.0099	0.0339
140 GOVT. ROYALTIES ON NAT. RESOURCES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
141 OWNER OCCUPIED DWELLINGS	0.0002	0.0006	0.0003	0.0012	0.0015	0.0040

*THIS STRUCTURE CONSISTS OF TWO INPUT AGGREGATES: 1)INTERMEDIATE INPUTS; AND 2) GDP FACTOR COST

DESCRIPTIVE SUMMARY REPORT OF ENTROPY RESULTS
FROM AN INDUSTRY DECOMPOSITION OF THE CURRENT PRICE
AGGREGATE INPUT STRUCTURE* FOR 1961-1984

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL		FIVE YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
142 OTHER BUSINESS SERVICE INDUSTRIES	0.0009	0.0036	0.0021	0.0112	0.0052	0.0149
143 PROFESSIONAL BUSINESS SERVICES	0.0003	0.0013	0.0006	0.0031	0.0012	0.0069
144 ADVERTISING SERVICES	0.0004	0.0017	0.0010	0.0043	0.0030	0.0133
145 EDUCATIONAL SERVICE INDUSTRIES	0.0011	0.0062	0.0021	0.0088	0.0069	0.0291
146 HOSPITALS	0.0005	0.0039	0.0007	0.0056	0.0027	0.0142
147 OTHER HEALTH SERVICES	0.0004	0.0042	0.0009	0.0058	0.0034	0.0137
148 ACCOMMODATION & FOOD SERVICE IND.	0.0002	0.0008	0.0005	0.0023	0.0011	0.0053
149 MOTION PICTURE & VIDEO INDUSTRIES	0.0004	0.0036	0.0007	0.0037	0.0033	0.0099
150 OTHER AMUSEMENT & RECREATIONAL SERV	0.0006	0.0067	0.0009	0.0038	0.0030	0.0094
151 LAUNDRIES & CLEANERS	0.0002	0.0022	0.0004	0.0021	0.0014	0.0071
152 OTHER PERSONAL SERVICES	0.0002	0.0013	0.0006	0.0033	0.0023	0.0065
153 PHOTOGRAPHERS	0.0007	0.0082	0.0014	0.0086	0.0020	0.0094
154 MISC. SERVICE INDUSTRIES	0.0013	0.0079	0.0034	0.0175	0.0073	0.0469
155 OPERATING SUPPLIES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
156 OFFICE SUPPLIES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
157 CAFETERIA SUPPLIES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
158 LABORATORY SUPPLIES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
159 TRAVEL & ENTERTAINMENT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
160 ADVERTISING & PROMOTION	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
161 TRANSPORTATION MARGINS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

*THIS STRUCTURE CONSISTS OF TWO INPUT AGGREGATES: 1)INTERMEDIATE INPUTS; AND 2) GDP FACTOR COST

APPENDIX 2

Descriptive Summary Report of Entropy Results Corresponding to an Industry Decomposition of the Aggregate Constant Price Input Structure, for One, Two, and Five Year Time Intervals.

DESCRIPTIVE SUMMARY REPORT OF ENTROPY RESULTS
FROM AN INDUSTRY DECOMPOSITION OF THE CONSTANT PRICE
AGGREGATE INPUT STRUCTURE* FOR 1961-1971

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL		FIVE YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
1 AGRICULTURAL & RELATED SERVICES INO	0.0018	0.0081	0.0025	0.0058	0.0051	0.0110
2 FISHING & TRAPPING INDUSTRIES	0.0017	0.0073	0.0022	0.0052	0.0062	0.0144
3 LOGGING & FORESTRY INDUSTRIES	0.0003	0.0015	0.0009	0.0032	0.0032	0.0068
4 GOLD MINES	0.0012	0.0049	0.0010	0.0051	0.0024	0.0052
5 OTHER METAL MINES	0.0017	0.0040	0.0050	0.0142	0.0250	0.0374
6 IRON MINES	0.0011	0.0043	0.0023	0.0062	0.0039	0.0086
7 ASBESTOS MINES	0.0005	0.0018	0.0009	0.0021	0.0027	0.0057
8 NON-METAL MINES EX COAL & ASBESTOS	0.0028	0.0073	0.0044	0.0142	0.0193	0.0424
9 SALT MINES	0.0009	0.0032	0.0021	0.0063	0.0057	0.0139
10 COAL MINES	0.0063	0.0418	0.0141	0.0483	0.0083	0.0275
11 CRUDE PETROLEUM & NATURAL GAS	0.0001	0.0004	0.0002	0.0007	0.0002	0.0007
12 QUARRY & SAND PIT INDUSTRIES	0.0006	0.0024	0.0017	0.0053	0.0042	0.0106
13 SERVICE RELATED TO MINERAL EXTRACT.	0.0011	0.0036	0.0028	0.0075	0.0079	0.0173
14 MEAT & MEAT PRODUCTS (EXC. POULTRY)	0.0005	0.0016	0.0005	0.0019	0.0008	0.0020
15 POULTRY PRDDUCTS INDUSTRY	0.0022	0.0068	0.0034	0.0089	0.0048	0.0090
16 FISH PRODUCTS INDUSTRY	0.0026	0.0088	0.0037	0.0148	0.0051	0.0190
17 FRUIT AND VEGETABLE INDUSTRIES	0.0003	0.0014	0.0003	0.0006	0.0003	0.0007
18 DAIRY PRODUCTS INDUSTRIES	0.0003	0.0011	0.0007	0.0035	0.0003	0.0007
19 FEED INDUSTRY	0.0017	0.0063	0.0033	0.0067	0.0040	0.0154
20 VEGETABLE OIL MILLS (EXC. CORN OIL)	0.0076	0.0271	0.0097	0.0241	0.0056	0.0184
21 BISCUIT INDUSTRY	0.0004	0.0028	0.0003	0.0011	0.0004	0.0007
22 BREAD & OTHER BAKERY PRODUCTS IND.	0.0006	0.0022	0.0013	0.0037	0.0020	0.0041
23 CANE & BEET SUGAR INDUSTRY	0.0059	0.0318	0.0104	0.0325	0.0078	0.0305
24 MISC. FOOD PRODUCTS INDUSTRIES	0.0003	0.0009	0.0007	0.0022	0.0026	0.0036
25 SOFT DRINK INDUSTRY	0.0007	0.0022	0.0013	0.0039	0.0067	0.0140
26 DISTILLERY PRODUCTS INDUSTRY	0.0009	0.0027	0.0017	0.0034	0.0057	0.0155
27 BREWERY PRODUCTS INDUSTRY	0.0003	0.0012	0.0008	0.0022	0.0024	0.0053
28 WINE INDUSTRY	0.0010	0.0051	0.0020	0.0117	0.0017	0.0058
29 TOBACCO PRODUCTS INDUSTRIES	0.0012	0.0039	0.0029	0.0100	0.0028	0.0052
30 RUBBER PRODUCTS INDUSTRIES	0.0006	0.0031	0.0009	0.0033	0.0017	0.0037
31 PLASTIC PRODUCTS INDUSTRIES	0.0007	0.0039	0.0018	0.0069	0.0060	0.0097
32 LEATHER TANNERIES	0.0023	0.0067	0.0044	0.0111	0.0034	0.0135
33 FOOTWEAR INDUSTRY	0.0003	0.0008	0.0007	0.0023	0.0035	0.0063
34 MISC. LEATHER & ALLIED PROD. IND.	0.0003	0.0018	0.0005	0.0023	0.0014	0.0063
35 MAN-MADE FIBRE YARN & WOVEN CLOTH	0.0002	0.0009	0.0005	0.0021	0.0004	0.0006
36 WOOL YARN & WOVEN CLOTH INDUSTRY	0.0015	0.0040	0.0033	0.0133	0.0083	0.0209
37 BROAD KNITTED FABRIC INDUSTRY	0.0020	0.0111	0.0036	0.0195	0.0081	0.0215
38 MISC. TEXTILE PRODUCTS INDUSTRIES	0.0006	0.0043	0.0008	0.0046	0.0003	0.0012
39 CONTRACT TEXTILE DYEING & FINISHING	0.0021	0.0115	0.0052	0.0233	0.0181	0.0393
40 CARPET, MAT & RUG INDUSTRY	0.0030	0.0121	0.0033	0.0120	0.0061	0.0248
41 CLOTHING INDUSTRIES EXC. HOSIERY	0.0003	0.0008	0.0011	0.0027	0.0061	0.0114
42 HOSIERY INDUSTRY	0.0009	0.0026	0.0015	0.0101	0.0024	0.0075
43 SAWMILLS, PLANING & SHINGLE MILLS	0.0005	0.0022	0.0008	0.0039	0.0010	0.0033
44 VENEER AND PLYWOOD INDUSTRIES	0.0003	0.0009	0.0006	0.0031	0.0010	0.0016
45 SASH, DOOR & OTHER MILLWORK IND.	0.0009	0.0025	0.0014	0.0052	0.0012	0.0035
46 WOODEN BOX & COFFIN INDUSTRIES	0.0007	0.0013	0.0009	0.0034	0.0034	0.0104
47 OTHER WOOD INDUSTRIES	0.0007	0.0017	0.0013	0.0049	0.0004	0.0019

*THIS STRUCTURE CONSISTS OF TWO INPUT AGGREGATES: 1)INTERMEDIATE INPUTS; AND 2) GDP FACTOR COST

DESCRIPTIVE SUMMARY REPORT OF ENTROPY RESULTS
FROM AN INDUSTRY DECOMPOSITION OF THE CONSTANT PRICE
AGGREGATE INPUT STRUCTURE* FOR 1961-1971

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL		FIVE YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
48 HOUSEHOLD FURNITURE INDUSTRIES	0.0004	0.0019	0.0006	0.0020	0.0014	0.0044
49 OFFICE FURNITURE INDUSTRIES	0.0010	0.0043	0.0011	0.0049	0.0016	0.0036
50 OTHER FURNITURE & FIXTURE INO.	0.0002	0.0004	0.0002	0.0014	0.0002	0.0004
51 PULP & PAPER INOUSTRIES	0.0002	0.0007	0.0005	0.0012	0.0029	0.0033
52 ASPHALT ROOFING INDUSTRY	0.0004	0.0020	0.0010	0.0033	0.0015	0.0043
53 PAPER BOX & BAG INDUSTRIES	0.0003	0.0017	0.0005	0.0019	0.0005	0.0008
54 OTHER CONVERTED PAPER PRODUCTS IND.	0.0003	0.0011	0.0006	0.0025	0.0032	0.0064
55 PRINTING & PUBLISHING IND.	0.0001	0.0003	0.0004	0.0007	0.0023	0.0031
56 PLATEMAKING, TYPESETTING & BINOERY	0.0004	0.0021	0.0008	0.0031	0.0031	0.0103
57 PRIMARY STEEL INDUSTRIES	0.0004	0.0013	0.0007	0.0017	0.0022	0.0066
58 STEEL PIPE & TUBE INDUSTRY	0.0014	0.0053	0.0032	0.0131	0.0082	0.0225
59 IRON FOUNDRIES	0.0011	0.0047	0.0015	0.0035	0.0016	0.0053
60 NON-FERROUS SMELTING & REFINING IND	0.0010	0.0043	0.0010	0.0027	0.0025	0.0096
61 ALUMINUM ROLLING CASTING, EXTRUDING	0.0122	0.0587	0.0135	0.0431	0.0589	0.1602
62 COPPER ROLLING CASTING & EXTRUDING	0.0021	0.0062	0.0047	0.0126	0.0038	0.0088
63 DTHER METAL ROLLING, CASTING ETC.	0.0017	0.0036	0.0026	0.0099	0.0038	0.0148
64 POWER BOILER & STRUCT. METAL IND.	0.0008	0.0035	0.0012	0.0043	0.0052	0.0141
65 ORNAMENTAL & ARCH. METAL PROO. INO.	0.0005	0.0018	0.0012	0.0039	0.0025	0.0073
66 STAMPED, PRESSED & COATED METALS	0.0002	0.0013	0.0003	0.0009	0.0003	0.0013
67 WIRE ANO WIRE PRODUCTS INDUSTRIES	0.0010	0.0062	0.0015	0.0049	0.0022	0.0052
68 HARDWARE, TOOL & CUTLERY INDUSTRIES	0.0006	0.0032	0.0008	0.0033	0.0010	0.0020
69 HEATING EQUIPMENT INDUSTRY	0.0002	0.0005	0.0003	0.0006	0.0010	0.0036
70 MACHINE SHOPS INOUSTRY	0.0005	0.0015	0.0012	0.0030	0.0035	0.0068
71 OTHER METAL FABRICATING INDUSTRIES	0.0008	0.0026	0.0008	0.0019	0.0005	0.0016
72 AGRICULTURE IMPLEMENT INDUSTRY	0.0008	0.0039	0.0016	0.0031	0.0051	0.0124
73 COMMERCIAL REFRIGERATION EQUIPMENT	0.0030	0.0111	0.0051	0.0146	0.0041	0.0105
74 OTHER MACHINERY & EQUIPMENT IND.	0.0003	0.0023	0.0007	0.0027	0.0016	0.0040
75 AIRCRAFT & AIRCRAFT PARTS INDUSTRY	0.0011	0.0043	0.0013	0.0039	0.0024	0.0097
76 MOTOR VEHICLE INDUSTRY	0.0011	0.0070	0.0014	0.0059	0.0084	0.0155
77 TRUCK, BUS BODY & TRAILER INOUSTRY	0.0009	0.0045	0.0013	0.0068	0.0038	0.0118
78 MOTOR VEHICLE PARTS & ACCESSORIES	0.0004	0.0010	0.0003	0.0009	0.0007	0.0015
79 RAILROAD ROLLING STOCK INDUSTRY	0.0098	0.0543	0.0198	0.0911	0.0180	0.0773
80 SHIPBUILDING AND REPAIR INDUSTRY	0.0009	0.0042	0.0019	0.0043	0.0115	0.0187
81 MISC. TRANSPORTATION EQUIPMENT IND.	0.0020	0.0087	0.0025	0.0056	0.0034	0.0092
82 SMALL ELECTRICAL APPLIANCE INDUSTRY	0.0005	0.0021	0.0012	0.0065	0.0027	0.0080
83 MAJOR APPLIANCES (ELEC & NON-ELEC.)	0.0005	0.0026	0.0010	0.0061	0.0029	0.0101
84 RECORD PLAYERS, RADIO & TV RECEIVER	0.0032	0.0082	0.0043	0.0152	0.0076	0.0257
85 ELECTRONIC EQUIPMENT INDUSTRIES	0.0017	0.0084	0.0025	0.0125	0.0084	0.0196
86 OFFICE, STORE & BUSINESS MACHINES	0.0233	0.2129	0.0266	0.2118	0.0250	0.1308
87 COMMUNICATIDNS, ENERGY WIRE & CABLE	0.0010	0.0035	0.0023	0.0061	0.0061	0.0208
88 BATTERY INDUSTRY	0.0013	0.0034	0.0010	0.0025	0.0010	0.0022
89 OTHER ELECT. & ELECTRONIC PRODUCTS	0.0004	0.0011	0.0005	0.0017	0.0006	0.0022
90 CLAY PRDDUCTS INDUSTRY	0.0005	0.0010	0.0007	0.0021	0.0011	0.0030
91 CEMENT INDUSTRY	0.0012	0.0034	0.0018	0.0097	0.0040	0.0104
92 CONCRETE PRDDUCTS INDUSTRY	0.0008	0.0037	0.0008	0.0028	0.0009	0.0033
93 READY-MIX CONCRETE INDUSTRY	0.0018	0.0072	0.0021	0.0101	0.0028	0.0110
94 GLASS & GLASS PRODUCTS INDUSTRIES	0.0002	0.0006	0.0003	0.0018	0.0015	0.0031

*THIS STRUCTURE CONSISTS OF TWO INPUT AGGREGATES: 1)INTERMEDIATE INPUTS; ANO 2) GDP FACTOR COST

DESCRIPTIVE SUMMARY REPORT OF ENTROPY RESULTS
FROM AN INDUSTRY DECOMPOSITION OF THE CONSTANT PRICE
AGGREGATE INPUT STRUCTURE* FOR 1961-1971

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL		FIVE YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
95 NON-METALIC MINERAL PRODUCTS NEC	0.0003	0.0015	0.0005	0.0025	0.0009	0.0033
96 REFINED PETROLEUM & COAL PRODUCTS	0.0007	0.0034	0.0007	0.0022	0.0026	0.0073
97 INDUSTRIAL CHEMICALS INDUSTRIES NEC	0.0004	0.0013	0.0007	0.0029	0.0012	0.0020
98 PLASTIC & SYNTHETIC RESIN INDUSTRY	0.0009	0.0025	0.0007	0.0023	0.0010	0.0028
99 PHARMACEUTICAL & MEDICINE INDUSTRY	0.0006	0.0015	0.0015	0.0048	0.0036	0.0124
100 PAINT AND VARNISH INDUSTRY	0.0005	0.0017	0.0011	0.0063	0.0048	0.0083
101 SDAP & CLEANING COMPOUNDS INDUSTRY	0.0009	0.0045	0.0015	0.0038	0.0078	0.0104
102 TOILET PREPARATIONS INDUSTRY	0.0012	0.0030	0.0029	0.0079	0.0023	0.0072
103 CHEMICAL & CHEMICAL PRODUCTS NEC	0.0002	0.0006	0.0001	0.0003	0.0000	0.0001
104 JEWELLERY & PRECIOUS METAL IND.	0.0013	0.0043	0.0011	0.0033	0.0004	0.0010
105 SPORTING GOODS & TOY INDUSTRIES	0.0006	0.0026	0.0008	0.0030	0.0037	0.0113
106 SIGN AND DISPLAY INDUSTRY	0.0004	0.0013	0.0005	0.0017	0.0008	0.0025
107 FLOOR TILE, LINOLEUM, COATED FABRIC	0.0019	0.0081	0.0061	0.0168	0.0137	0.0287
108 OTHER MANUFACTURING INDUSTRIES NEC	0.0005	0.0013	0.0005	0.0017	0.0004	0.0018
109 REPAIR CONSTRUCTION	0.0011	0.0062	0.0031	0.0181	0.0079	0.0350
110 RESIDENTIAL CONSTRUCTION	0.0017	0.0050	0.0047	0.0172	0.0204	0.0504
111 NON-RESIDENTIAL BLDG. CONSTRUCTION	0.0004	0.0014	0.0005	0.0033	0.0006	0.0014
112 ROAD, HIGHWAY & AIRSTRIP CONST.	0.0016	0.0041	0.0041	0.0097	0.0124	0.0302
113 GAS & OIL FACILITY CDNSTRUCTION	0.0015	0.0065	0.0032	0.0118	0.0067	0.0127
114 DAMS & IRRIGATION PROJECTS	0.0004	0.0017	0.0006	0.0022	0.0008	0.0026
115 RAILWAY & TELEPHONE TELEGRAPH CONST	0.0011	0.0065	0.0017	0.0070	0.0062	0.0249
116 OTHER ENGINEERING CONSTRUCTION	0.0005	0.0017	0.0016	0.0037	0.0048	0.0102
117 CONSTRUCTION, OTHER ACTIVITIES	0.0005	0.0012	0.0005	0.0023	0.0004	0.0012
118 AIR TRANSPORT & SERVICES INCIDENTAL	0.0008	0.0024	0.0010	0.0060	0.0004	0.0015
119 RAILWAY TRANSPORT & REL. SERVICES	0.0008	0.0024	0.0020	0.0050	0.0033	0.0094
120 WATER TRANSPORT & REL. SERVICES	0.0020	0.0058	0.0028	0.0084	0.0056	0.0156
121 TRUCK TRANSPORT INDUSTRIES	0.0002	0.0009	0.0005	0.0022	0.0020	0.0057
122 URBAN TRANSIT SYSTEM INDUSTRY	0.0004	0.0028	0.0005	0.0034	0.0010	0.0053
123 INTERURBAN & RURAL TRANSIT SYSTEMS	0.0006	0.0014	0.0010	0.0046	0.0011	0.0032
124 TAXICAB INDUSTRY	0.0004	0.0012	0.0008	0.0028	0.0016	0.0041
125 OTHER TRANSPORT & SERV. TO TRANSP.	0.0015	0.0067	0.0029	0.0087	0.0100	0.0360
126 HIGHWAY & BRIDGE MAINTENANCE IND.	0.0032	0.0197	0.0065	0.0297	0.0099	0.0376
127 PIPELINE TRANSPORT INDUSTRIES	0.0012	0.0046	0.0037	0.0113	0.0075	0.0208
128 STORAGE AND WAREHOUSING INDUSTRIES	0.0013	0.0038	0.0016	0.0053	0.0017	0.0043
129 TELECOMMUNICATION BROADCASTING IND.	0.0005	0.0021	0.0015	0.0077	0.0025	0.0115
130 TELECOMMUNICATION CARRIERS & DTHER	0.0002	0.0008	0.0005	0.0013	0.0030	0.0050
131 POSTAL SERVICE INDUSTRY	0.0006	0.0022	0.0011	0.0038	0.0018	0.0057
132 ELECTRIC POWER SYSTEMS INDUSTRY	0.0002	0.0007	0.0003	0.0016	0.0002	0.0008
133 GAS DISTRIBUTION SYSTEMS INDUSTRY	0.0007	0.0042	0.0011	0.0047	0.0022	0.0090
134 OTHER UTILITY INDUSTRIES NEC	0.0060	0.0171	0.0056	0.0206	0.0062	0.0262
135 WHOLESALE TRADE INDUSTRIES	0.0001	0.0002	0.0001	0.0003	0.0006	0.0011
136 RETAIL TRADE INDUSTRIES	0.0001	0.0002	0.0002	0.0006	0.0013	0.0022
137 BANKS, CREDIT UNION & OTH. DEP INST	0.0004	0.0015	0.0012	0.0026	0.0033	0.0096
138 TRUST, OTHER FINANCE & REAL ESTATE	0.0007	0.0019	0.0003	0.0011	0.0004	0.0009
139 INSURANCE INDUSTRIES	0.0020	0.0066	0.0046	0.0134	0.0061	0.0177
140 GOVT. ROYALTIES ON NAT. RESOURCES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
141 OWNER OCCUPIED DWELLINGS	0.0000	0.0001	0.0000	0.0002	0.0001	0.0005

*THIS STRUCTURE CONSISTS OF TWO INPUT AGGREGATES: 1)INTERMEDIATE INPUTS; AND 2) GDP FACTOR COST

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FROM AN INDUSTRY DECOMPOSITION OF THE CONSTANT PRICE
AGGREGATE INPUT STRUCTURE* FOR 1961-1971

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL		FIVE YEAR INTERVAL	
	AVERAGE RAW ENTRDPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
142 DTHER BUSINESS SERVICE INDUSTRIES	0.0021	0.0145	0.0031	0.0095	0.0048	0.0094
143 PROFESSIONAL BUSINESS SERVICES	0.0005	0.0017	0.0012	0.0065	0.0036	0.0157
144 ADVERTISING SERVICES	0.0008	0.0034	0.0024	0.0067	0.0084	0.0293
145 EDUCATIONAL SERVICE INDUSTRIES	0.0013	0.0043	0.0031	0.0096	0.0163	0.04D9
146 HOSPITALS	0.0016	0.0060	D.0052	0.0133	0.0353	0.0533
147 DTHER HEALTH SERVICES	D.0006	0.0052	0.0009	0.0063	0.0023	0.0101
148 ACCOMMODATION & FOOD SERVICE IND.	0.0005	0.0015	0.0010	0.0031	0.0022	0.0085
149 MOTION PICTURE & VIDEO INDUSTRIES	0.0006	0.0038	0.0018	0.0073	0.0073	0.0144
150 OTHER AMUSEMENT & RECREATIONAL SERV	0.0008	0.0032	0.0005	0.0011	0.0006	0.0016
151 LAUNDRIES & CLEANERS	0.0002	0.0007	0.0004	0.0014	0.0013	0.0024
152 OTHER PERSONAL SERVICES	0.0001	0.0005	0.0002	0.0004	0.0001	0.0003
153 PHDTOGRAPHERS	0.0002	0.0012	0.0007	0.0015	D.0025	0.0066
154 MISC. SERVICE INDUSTRIES	0.0025	0.0090	0.0072	0.0190	0.D189	0.0438
155 OPERATING SUPPLIES	0.0000	0.0000	0.0000	0.0000	D.0000	0.0000
156 OFFICE SUPPLIES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
157 CAFETERIA SUPPLIES	0.0000	0.0000	0.0000	D.0000	0.0000	0.0000
158 LABORATORY SUPPLIES	0.0000	0.0000	0.0000	0.0000	D.0000	0.0000
159 TRAVEL & ENTERTAINMENT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
160 ADVERTISING & PROMOTION	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
161 TRANSPORTATION MARGINS	0.0000	0.000D	0.0000	0.0000	D.0000	0.0000

*THIS STRUCTURE CDNSISTS OF TWD INPUT AGGREGATES: 1)INTERMEDIATE INPUTS; AND 2) GDP FACTOR COST

DESCRIPTIVE SUMMARY REPORT OF ENTROPY RESULTS
FROM AN INOUSTRY DECOMPOSITION OF THE CDNSTANT PRICE
AGGREGATE INPUT STRUCTURE* FOR 1971-1981

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL		FIVE YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
1 AGRICULTURAL & RELATED SERVICES IND	0.0018	0.0064	0.0026	0.0077	0.0024	0.0045
2 FISHING & TRAPPING INDUSTRIES	0.0019	0.0107	0.0035	0.0077	0.0047	0.0138
3 LOGGING & FORESTRY INDUSTRIES	0.0004	0.0016	0.0008	0.0023	0.0007	0.0020
4 GOLO MINES	0.0087	0.0326	0.0236	0.0691	0.0321	0.0543
5 OTHER METAL MINES	0.0040	0.0134	0.0087	0.0256	0.0177	0.0413
6 IRON MINES	0.0043	0.0257	0.0112	0.0360	0.0295	0.0622
7 ASBESTOS MINES	0.0035	0.0115	0.0056	0.0223	0.0241	0.0710
8 NON-METAL MINES EX COAL & ASBESTOS	0.0019	0.0118	0.0024	0.0124	0.0022	0.0045
9 SALT MINES	0.0023	0.0082	0.0038	0.0157	0.0041	0.0165
10 COAL MINES	0.0105	0.0315	0.0265	0.0587	0.0501	0.1292
11 CRUDE PETROLEUM & NATURAL GAS	0.0053	0.0205	0.0134	0.0331	0.0704	0.1097
12 QUARRY & SANO PIT INDUSTRIES	0.0013	0.0034	0.0024	0.0133	0.0034	0.0171
13 SERVICE RELATED TO MINERAL EXTRACT.	0.0020	0.0052	0.0037	0.0121	0.0028	0.0115
14 MEAT & MEAT PRODUCTS (EXC. POULTRY)	0.0008	0.0017	0.0006	0.0019	0.0006	0.0011
15 POULTRY PRODUCTS INDUSTRY	0.0028	0.0084	0.0052	0.0191	0.0032	0.0118
16 FISH PRODUCTS INDUSTRY	0.0032	0.0170	0.0054	0.0150	0.0052	0.0135
17 FRUIT ANO VEGETABLE INDUSTRIES	0.0011	0.0039	0.0024	0.0085	0.0016	0.0059
18 DAIRY PROOUCTS INDUSTRIES	0.0009	0.0045	0.0011	0.0022	0.0002	0.0007
19 FEED INDUSTRY	0.0103	0.0583	0.0175	0.1011	0.0162	0.0695
20 VEGETABLE DIL MILLS (EXC. CDRN OIL)	0.0080	0.0628	0.0124	0.0478	0.0117	0.0294
21 BISCUIT INDUSTRY	0.0013	0.0026	0.0017	0.0073	0.0072	0.0119
22 BREAO & OTHER BAKERY PRODUCTS IND.	0.0008	0.0038	0.0018	0.0041	0.0011	0.0038
23 CANE & BEET SUGAR INOUSTRY	0.0087	0.0466	0.0120	0.0559	0.0045	0.0136
24 MISC. FOOD PRODUCTS INDUSTRIES	0.0012	0.0069	0.0019	0.0110	0.0015	0.0041
25 SOFT ORINK INDUSTRY	0.0006	0.0021	0.0019	0.0057	0.0045	0.0125
26 DISTILLERY PRODUCTS INDUSTRY	0.0004	0.0015	0.0009	0.0025	0.0021	0.0060
27 BREWERY PRODUCTS INDUSTRY	0.0003	0.0006	0.0006	0.0022	0.0022	0.0035
28 WINE INDUSTRY	0.0043	0.0157	0.0074	0.0294	0.0044	0.0192
29 TOBACCO PRODUCTS INOUSTRIES	0.0012	0.0042	0.0009	0.0039	0.0005	0.0018
30 RUBBER PROOUCTS INOUSTRIES	0.0005	0.0017	0.0013	0.0053	0.0032	0.0049
31 PLASTIC PRODUCTS INDUSTRIES	0.0003	0.0023	0.0006	0.0022	0.0007	0.0021
32 LEATHER TANNERIES	0.0033	0.0117	0.0020	0.0060	0.0040	0.0119
33 FOOTWEAR INDUSTRY	0.0002	0.0014	0.0005	0.0024	0.0017	0.0040
34 MISC. LEATHER & ALLIED PROD. IND.	0.0002	0.0006	0.0006	0.0022	0.0035	0.0051
35 MAN-MAOE FIBRE YARN & WOVEN CLOTH	0.0003	0.0009	0.0005	0.0014	0.0012	0.0032
36 WOOL YARN & WOVEN CLOTH INOUSTRY	0.0015	0.0043	0.0025	0.0092	0.0076	0.0236
37 BROAO KNITTED FABRIC INDUSTRY	0.0021	0.0093	0.0055	0.0135	0.0317	0.0693
38 MISC. TEXTILE PRODUCTS INDUSTRIES	0.0004	0.0017	0.0011	0.0034	0.0018	0.0043
39 CONTRACT TEXTILE OYEING & FINISHING	0.0104	0.0392	0.0103	0.0376	0.0081	0.0185
40 CARPET, MAT & RUG INDUSTRY	0.0006	0.0024	0.0017	0.0071	0.0054	0.0160
41 CLOTHING INDUSTRIES EXC. HOSIERY	0.0001	0.0004	0.0003	0.0007	0.0013	0.0027
42 HOSIERY INDUSTRY	0.0011	0.0038	0.0014	0.0043	0.0072	0.0128
43 SAWMILLS, PLANING & SHINGLE MILLS	0.0012	0.0046	0.0020	0.0052	0.0018	0.0065
44 VENEER ANO PLYWOOD INDUSTRIES	0.0013	0.0061	0.0024	0.0088	0.0016	0.0042
45 SASH, OOOR & OTHER MILLWORK IND.	0.0006	0.0021	0.0015	0.0060	0.0020	0.0048
46 WOODEN BOX & COFFIN INDUSTRIES	0.0030	0.0141	0.0067	0.0213	0.0032	0.0139
47 OTHER WOOD INDUSTRIES	0.0061	0.0241	0.0093	0.0401	0.0092	0.0342

*THIS STRUCTURE CONSISTS OF TWO INPUT AGGREGATES: 1)INTERMEDIATE INPUTS; AND 2) GDP FACTOR COST

DESCRIPTIVE SUMMARY REPORT OF ENTROPY RESULTS
FROM AN INDUSTRY DECOMPOSITION OF THE CONSTANT PRICE
AGGREGATE INPUT STRUCTURE* FOR 1971-1981

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL		FIVE YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
48 HOUSEHOLD FURNITURE INDUSTRIES	0.0008	0.0060	0.0020	0.0065	0.0012	0.0025
49 OFFICE FURNITURE INDUSTRIES	0.0021	0.0072	0.0043	0.0265	0.0096	0.0307
50 OTHER FURNITURE & FIXTURE IND.	0.0014	0.0050	0.0023	0.0071	0.0022	0.0043
51 PULP & PAPER INDUSTRIES	0.0012	0.0068	0.0018	0.0081	0.0014	0.0033
52 ASPHALT ROOFING INDUSTRY	0.0010	0.0039	0.0005	0.0013	0.0009	0.0020
53 PAPER BOX & BAG INDUSTRIES	0.0001	0.0004	0.0002	0.0005	0.0005	0.0015
54 OTHER CONVERTED PAPER PRODUCTS IND.	0.0003	0.0014	0.0007	0.0024	0.0014	0.0034
55 PRINTING & PUBLISHING IND.	0.0001	0.0002	0.0002	0.0004	0.0002	0.0007
56 PLATEMAKING, TYPESETTING & BINDERY	0.0004	0.0017	0.0004	0.0013	0.0027	0.0054
57 PRIMARY STEEL INDUSTRIES	0.0008	0.0023	0.0017	0.0064	0.0047	0.0091
58 STEEL PIPE & TUBE INDUSTRY	0.0028	0.0111	0.0078	0.0231	0.0076	0.0131
59 IRON FOUNDRIES	0.0006	0.0019	0.0018	0.0055	0.0032	0.0058
60 NON-FERROUS SMELTING & REFINING IND	0.0047	0.0128	0.0069	0.0269	0.0076	0.0249
61 ALUMINUM ROLLING CASTING, EXTRUDING	0.0011	0.0081	0.0025	0.0087	0.0041	0.0076
62 COPPER ROLLING CASTING & EXTRUDING	0.0074	0.0277	0.0085	0.0238	0.0063	0.0247
63 OTHER METAL ROLLING, CASTING ETC.	0.0042	0.0236	0.0128	0.0419	0.0488	0.1007
64 POWER BOILER & STRUCT. METAL IND.	0.0011	0.0040	0.0024	0.0082	0.0023	0.0046
65 ORNAMENTAL & ARCH. METAL PROD. IND.	0.0008	0.0021	0.0024	0.0060	0.0055	0.0130
66 STAMPED, PRESSED & COATED METALS	0.0004	0.0016	0.0006	0.0012	0.0007	0.0022
67 WIRE AND WIRE PRODUCTS INDUSTRIES	0.0010	0.0039	0.0007	0.0016	0.0003	0.0006
68 HARDWARE, TOOL & CUTLERY INDUSTRIES	0.0002	0.0007	0.0003	0.0009	0.0002	0.0006
69 HEATING EQUIPMENT INDUSTRY	0.0008	0.0034	0.0015	0.0040	0.0042	0.0096
70 MACHINE SHOPS INDUSTRY	0.0003	0.0011	0.0007	0.0026	0.0007	0.0017
71 OTHER METAL FABRICATING INDUSTRIES	0.0002	0.0007	0.0002	0.0006	0.0003	0.0008
72 AGRICULTURE IMPLEMENT INDUSTRY	0.0009	0.0041	0.0009	0.0030	0.0014	0.0025
73 COMMERCIAL REFRIGERATION EQUIPMENT	0.0006	0.0018	0.0016	0.0067	0.0078	0.0155
74 OTHER MACHINERY & EQUIPMENT IND.	0.0002	0.0006	0.0003	0.0008	0.0004	0.0015
75 AIRCRAFT & AIRCRAFT PARTS INDUSTRY	0.0012	0.0049	0.0015	0.0027	0.0009	0.0022
76 MOTOR VEHICLE INDUSTRY	0.0019	0.0078	0.0028	0.0053	0.0086	0.0294
77 TRUCK, BUS BODY & TRAILER INDUSTRY	0.0005	0.0017	0.0009	0.0017	0.0049	0.0082
78 MOTOR VEHICLE PARTS & ACCESSORIES	0.0006	0.0022	0.0013	0.0051	0.0046	0.0086
79 RAILROAD ROLLING STOCK INDUSTRY	0.0032	0.0159	0.0044	0.0083	0.0045	0.0084
80 SHIPBUILDING AND REPAIR INDUSTRY	0.0014	0.0068	0.0016	0.0083	0.0022	0.0108
81 MISC. TRANSPORTATION EQUIPMENT IND.	0.0037	0.0158	0.0061	0.0307	0.0022	0.0085
82 SMALL ELECTRICAL APPLIANCE INDUSTRY	0.0017	0.0074	0.0037	0.0118	0.0096	0.0271
83 MAJOR APPLIANCES (ELEC & NON-ELEC.)	0.0021	0.0081	0.0022	0.0105	0.0051	0.0108
84 RECORD PLAYERS, RADIO & TV RECEIVER	0.0088	0.0316	0.0135	0.0460	0.0084	0.0157
85 ELECTRONIC EQUIPMENT INDUSTRIES	0.0009	0.0025	0.0016	0.0037	0.0020	0.0035
86 OFFICE, STORE & BUSINESS MACHINES	0.0031	0.0088	0.0076	0.0280	0.0046	0.0088
87 COMMUNICATIONS, ENERGY WIRE & CABLE	0.0006	0.0029	0.0018	0.0069	0.0021	0.0061
88 BATTERY INDUSTRY	0.0012	0.0023	0.0031	0.0075	0.0007	0.0030
89 OTHER ELECT. & ELECTRONIC PRODUCTS	0.0010	0.0039	0.0013	0.0036	0.0011	0.0052
90 CLAY PRODUCTS INDUSTRY	0.0004	0.0013	0.0004	0.0018	0.0004	0.0011
91 CEMENT INDUSTRY	0.0011	0.0042	0.0036	0.0137	0.0068	0.0147
92 CONCRETE PRODUCTS INDUSTRY	0.0008	0.0027	0.0013	0.0039	0.0013	0.0038
93 READY-MIX CONCRETE INDUSTRY	0.0008	0.0052	0.0012	0.0041	0.0042	0.0089
94 GLASS & GLASS PRODUCTS INDUSTRIES	0.0004	0.0021	0.0007	0.0019	0.0006	0.0014

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DESCRIPTIVE SUMMARY REPORT OF ENTROPY RESULTS
FROM AN INDUSTRY DECOMPOSITION OF THE CONSTANT PRICE
AGGREGATE INPUT STRUCTURE* FOR 1971-1981

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL		FIVE YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
95 NON-METALIC MINERAL PRODUCTS NEC	0.0003	0.0014	0.0006	0.0030	0.0016	0.0059
96 REFINED PETROLEUM & COAL PRODUCTS	0.0014	0.0042	0.0021	0.0082	0.0033	0.0104
97 INDUSTRIAL CHEMICALS INDUSTRIES NEC	0.0012	0.0045	0.0022	0.0084	0.0021	0.0041
98 PLASTIC & SYNTHETIC RESIN INDUSTRY	0.0022	0.0080	0.0039	0.0111	0.0061	0.0174
99 PHARMACEUTICAL & MEDICINE INDUSTRY	0.0003	0.0012	0.0004	0.0012	0.0010	0.0029
100 PAINT AND VARNISH INDUSTRY	0.0009	0.0028	0.0022	0.0081	0.0030	0.0133
101 SOAP & CLEANING COMPOUNDS INDUSTRY	0.0014	0.0043	0.0018	0.0098	0.0011	0.0028
102 TOILET PREPARATIONS INDUSTRY	0.0008	0.0017	0.0011	0.0032	0.0017	0.0071
103 CHEMICAL & CHEMICAL PRODUCTS NEC	0.0007	0.0044	0.0011	0.0035	0.0011	0.0038
104 JEWELLERY & PRECIOUS METAL IND.	0.0049	0.0276	0.0104	0.0306	0.0327	0.0750
105 SPORTING GOODS & TOY INDUSTRIES	0.0009	0.0030	0.0016	0.0056	0.0059	0.0235
106 SIGN AND DISPLAY INDUSTRY	0.0005	0.0029	0.0010	0.0036	0.0014	0.0052
107 FLOOR TILE, LINOLEUM, COATED FABRIC	0.0034	0.0126	0.0030	0.0157	0.0044	0.0132
108 OTHER MANUFACTURING INDUSTRIES NEC	0.0010	0.0070	0.0016	0.0058	0.0013	0.0036
109 REPAIR CONSTRUCTION	0.0018	0.0118	0.0036	0.0165	0.0071	0.0193
110 RESIDENTIAL CONSTRUCTION	0.0016	0.0067	0.0042	0.0129	0.0076	0.0154
111 NON-RESIDENTIAL BLDG. CONSTRUCTION	0.0003	0.0012	0.0009	0.0041	0.0038	0.0076
112 ROAD, HIGHWAY & AIRSTRIP CONST.	0.0020	0.0113	0.0046	0.0207	0.0043	0.0068
113 GAS & OIL FACILITY CONSTRUCTION	0.0020	0.0071	0.0050	0.0135	0.0021	0.0052
114 DAMS & IRRIGATION PROJECTS	0.0019	0.0056	0.0052	0.0213	0.0251	0.0426
115 RAILWAY & TELEPHONE TELEGRAPH CONST	0.0022	0.0053	0.0046	0.0090	0.0145	0.0442
116 OTHER ENGINEERING CONSTRUCTION	0.0007	0.0045	0.0011	0.0035	0.0050	0.0100
117 CONSTRUCTION, OTHER ACTIVITIES	0.0004	0.0017	0.0010	0.0048	0.0011	0.0021
118 AIR TRANSPORT & SERVICES INCIDENTAL	0.0010	0.0044	0.0021	0.0078	0.0031	0.0073
119 RAILWAY TRANSPORT & REL. SERVICES	0.0007	0.0022	0.0021	0.0045	0.0018	0.0052
120 WATER TRANSPORT & REL. SERVICES	0.0011	0.0023	0.0032	0.0087	0.0073	0.0205
121 TRUCK TRANSPORT INDUSTRIES	0.0015	0.0050	0.0033	0.0093	0.0029	0.0086
122 URBAN TRANSIT SYSTEM INDUSTRY	0.0008	0.0033	0.0026	0.0077	0.0117	0.0181
123 INTERURBAN & RURAL TRANSIT SYSTEMS	0.0013	0.0035	0.0024	0.0054	0.0049	0.0101
124 TAXICAB INDUSTRY	0.0009	0.0052	0.0015	0.0033	0.0057	0.0117
125 OTHER TRANSPORT & SERV. TO TRANSP.	0.0013	0.0047	0.0026	0.0102	0.0048	0.0115
126 HIGHWAY & BRIDGE MAINTENANCE IND.	0.0076	0.0302	0.0170	0.0519	0.0312	0.1129
127 PIPELINE TRANSPORT INDUSTRIES	0.0017	0.0143	0.0030	0.0132	0.0042	0.0112
128 STORAGE AND WAREHOUSING INDUSTRIES	0.0003	0.0008	0.0004	0.0013	0.0005	0.0020
129 TELECOMMUNICATION BROADCASTING IND.	0.0009	0.0038	0.0023	0.0111	0.0035	0.0105
130 TELECOMMUNICATION CARRIERS & OTHER	0.0001	0.0001	0.0003	0.0005	0.0019	0.0028
131 POSTAL SERVICE INDUSTRY	0.0012	0.0069	0.0011	0.0037	0.0020	0.0074
132 ELECTRIC POWER SYSTEMS INDUSTRY	0.0004	0.0018	0.0011	0.0036	0.0015	0.0052
133 GAS DISTRIBUTION SYSTEMS INDUSTRY	0.0012	0.0043	0.0020	0.0050	0.0008	0.0020
134 OTHER UTILITY INDUSTRIES NEC	0.0068	0.0443	0.0188	0.1007	0.0352	0.0768
135 WHOLESALE TRADE INDUSTRIES	0.0001	0.0003	0.0002	0.0010	0.0007	0.0012
136 RETAIL TRADE INDUSTRIES	0.0002	0.0004	0.0004	0.0008	0.0009	0.0030
137 BANKS, CREDIT UNION & OTH. DEP INST	0.0007	0.0039	0.0023	0.0093	0.0084	0.0224
138 TRUST, OTHER FINANCE & REAL ESTATE	0.0001	0.0005	0.0003	0.0010	0.0006	0.0019
139 INSURANCE INDUSTRIES	0.0018	0.0050	0.0046	0.0103	0.0039	0.0115
140 GOVT. ROYALTIES ON NAT. RESOURCES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
141 OWNER OCCUPIED DWELLINGS	0.0000	0.0002	0.0001	0.0005	0.0002	0.0005

*THIS STRUCTURE CONSISTS OF TWO INPUT AGGREGATES: 1)INTERMEDIATE INPUTS; AND 2) GOP FACTOR COST

DESCRIPTIVE SUMMARY REPORT OF ENTROPY RESULTS
FROM AN INDUSTRY DECOMPOSITION OF THE CONSTANT PRICE
AGGREGATE INPUT STRUCTURE* FOR 1971-1981

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL		FIVE YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
142 OTHER BUSINESS SERVICE INDUSTRIES	0.0013	0.0051	0.0030	0.0125	0.0069	0.0136
143 PROFESSIONAL BUSINESS SERVICES	0.0003	0.0013	0.0007	0.0037	0.0029	0.0056
144 ADVERTISING SERVICES	0.0007	0.0021	0.0008	0.0020	0.0012	0.0030
145 EDUCATIONAL SERVICE INDUSTRIES	0.0012	0.0064	0.0026	0.0085	0.0093	0.0182
146 HOSPITALS	0.0010	0.0070	0.0021	0.0055	0.0058	0.0089
147 OTHER HEALTH SERVICES	0.0002	0.0008	0.0005	0.0016	0.0027	0.0050
148 ACCOMMODATION & FOOD SERVICE IND.	0.0002	0.0012	0.0004	0.0017	0.0004	0.0016
149 MOTION PICTURE & VIDEO INDUSTRIES	0.0003	0.0014	0.0008	0.0027	0.0029	0.0071
150 OTHER AMUSEMENT & RECREATIONAL SERV	0.0005	0.0019	0.0010	0.0042	0.0028	0.0058
151 LAUNDRIES & CLEANERS	0.0003	0.0011	0.0007	0.0017	0.0034	0.0055
152 OTHER PERSONAL SERVICES	0.0002	0.0005	0.0004	0.0011	0.0003	0.0007
153 PHOTOGRAPHERS	0.0018	0.0083	0.0038	0.0119	0.0030	0.0087
154 MISC. SERVICE INDUSTRIES	0.0007	0.0029	0.0016	0.0045	0.0031	0.0045
155 OPERATING SUPPLIES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
156 OFFICE SUPPLIES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
157 CAFETERIA SUPPLIES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
158 LABORATORY SUPPLIES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
159 TRAVEL & ENTERTAINMENT	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
160 ADVERTISING & PROMOTION	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
161 TRANSPORTATION MARGINS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

*THIS STRUCTURE CONSISTS OF TWO INPUT AGGREGATES: 1)INTERMEDIATE INPUTS; AND 2) GDP FACTOR COST

DESCRIPTIVE SUMMARY REPORT OF ENTROPY RESULTS
FROM AN INDUSTRY DECOMPOSITION OF THE CONSTANT PRICE
AGGREGATE INPUT STRUCTURE* FOR 1981-1984

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
1 AGRICULTURAL & RELATED SERVICES IND	0.0002	0.0006	0.0002	0.0002
2 FISHING & TRAPPING INDUSTRIES	0.0021	0.0052	0.0031	0.0050
3 LOGGING & FORESTRY INDUSTRIES	0.0008	0.0016	0.0011	0.0020
4 GOLD MINES	0.0024	0.0066	0.0020	0.0038
5 OTHER METAL MINES	0.0054	0.0064	0.0219	0.0244
6 IRON MINES	0.0031	0.0077	0.0105	0.0157
7 ASBESTOS MINES	0.0055	0.0088	0.0042	0.0083
8 NON-METAL MINES EX COAL & ASBESTOS	0.0013	0.0022	0.0019	0.0036
9 SALT MINES	0.0015	0.0042	0.0032	0.0060
10 COAL MINES	0.0060	0.0101	0.0256	0.0323
11 CRUDE PETROLEUM & NATURAL GAS	0.0002	0.0005	0.0002	0.0002
12 QUARRY & SAND PIT INDUSTRIES	0.0030	0.0065	0.0041	0.0047
13 SERVICE RELATED TO MINERAL EXTRACT.	0.0004	0.0008	0.0003	0.0005
14 MEAT & MEAT PRODUCTS (EXC. POULTRY)	0.0003	0.0009	0.0004	0.0008
15 POULTRY PRODUCTS INDUSTRY	0.0006	0.0018	0.0015	0.0019
16 FISH PRODUCTS INDUSTRY	0.0020	0.0051	0.0043	0.0070
17 FRUIT AND VEGETABLE INDUSTRIES	0.0008	0.0021	0.0030	0.0033
18 DAIRY PRODUCTS INDUSTRIES	0.0005	0.0009	0.0016	0.0029
19 FEED INDUSTRY	0.0012	0.0023	0.0005	0.0009
20 VEGETABLE OIL MILLS (EXC. CORN OIL)	0.0132	0.0179	0.0249	0.0499
21 BISCUIT INDUSTRY	0.0002	0.0004	0.0003	0.0004
22 BREAD & OTHER BAKERY PRODUCTS IND.	0.0001	0.0002	0.0001	0.0002
23 CANE & BEET SUGAR INDUSTRY	0.0058	0.0165	0.0054	0.0097
24 MISC. FOOD PRODUCTS INDUSTRIES	0.0001	0.0003	0.0002	0.0004
25 SOFT DRINK INDUSTRY	0.0019	0.0027	0.0031	0.0061
26 DISTILLERY PRODUCTS INDUSTRY	0.0017	0.0020	0.0000	0.0000
27 BREWERY PRODUCTS INDUSTRY	0.0009	0.0023	0.0023	0.0043
28 WINE INDUSTRY	0.0030	0.0060	0.0008	0.0015
29 TOBACCO PRODUCTS INDUSTRIES	0.0004	0.0012	0.0006	0.0013
30 RUBBER PRODUCTS INDUSTRIES	0.0011	0.0017	0.0033	0.0061
31 PLASTIC PRODUCTS INDUSTRIES	0.0002	0.0003	0.0004	0.0009
32 LEATHER TANNERIES	0.0040	0.0074	0.0059	0.0114
33 FOOTWEAR INDUSTRY	0.0005	0.0009	0.0008	0.0009
34 MISC. LEATHER & ALLIED PROD. IND.	0.0008	0.0016	0.0027	0.0040
35 MAN-MADE FIBRE YARN & WOVEN CLOTH	0.0015	0.0034	0.0017	0.0026
36 WOOL YARN & WOVEN CLOTH INDUSTRY	0.0014	0.0032	0.0017	0.0027
37 BROAD KNITTED FABRIC INDUSTRY	0.0016	0.0030	0.0009	0.0016
38 MISC. TEXTILE PRODUCTS INDUSTRIES	0.0007	0.0016	0.0007	0.0008
39 CONTRACT TEXTILE DYEING & FINISHING	0.0003	0.0006	0.0001	0.0001
40 CARPET, MAT & RUG INDUSTRY	0.0034	0.0064	0.0007	0.0008
41 CLOTHING INDUSTRIES EXC. HOSIERY	0.0004	0.0007	0.0007	0.0014
42 HOSIERY INDUSTRY	0.0002	0.0003	0.0002	0.0002
43 SAWMILLS, PLANING & SHINGLE MILLS	0.0006	0.0007	0.0011	0.0023
44 VENEER AND PLYWOOD INDUSTRIES	0.0006	0.0007	0.0011	0.0023
45 SASH, DOOR & OTHER MILLWORK IND.	0.0003	0.0005	0.0004	0.0007

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DESCRIPTIVE SUMMARY REPORT OF ENTROPY RESULTS
FROM AN INDUSTRY DECOMPOSITION OF THE CONSTANT PRICE
AGGREGATE INPUT STRUCTURE* FOR 1981-1984

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
46 WODDEN BOX & CDFFIN INDUSTRIES	0.0045	0.0082	0.0034	0.0064
47 DTHER WOOD INDUSTRIES	0.0038	0.0082	0.0029	0.0047
48 HOUSEHOLD FURNITURE INDUSTRIES	0.0016	0.0034	0.0005	0.0006
49 OFFICE FURNITURE INDUSTRIES	0.0009	0.0023	0.0006	0.0008
50 OTHER FURNITURE & FIXTURE IND.	0.0003	0.0006	0.0005	0.0007
51 PULP & PAPER INDUSTRIES	0.0005	0.0011	0.0001	0.0002
52 ASPHALT ROOFING INDUSTRY	0.0058	0.0077	0.0003	0.0005
53 PAPER BOX & BAG INDUSTRIES	0.0004	0.0009	0.0001	0.0002
54 OTHER CONVERTED PAPER PRODUCTS IND.	0.0024	0.0035	0.0006	0.0013
55 PRINTING & PUBLISHING IND.	0.0002	0.0006	0.0002	0.0004
56 PLATEMAKING, TYPESETTING & BINDERY	0.0009	0.0019	0.0029	0.0040
57 PRIMARY STEEL INDUSTRIES	0.0031	0.0056	0.0013	0.0023
58 STEEL PIPE & TUBE INDUSTRY	0.0053	0.0107	0.0129	0.0258
59 IRON FOUNDRIES	0.0043	0.0074	0.0104	0.0195
60 NON-FERROUS SMELTING & REFINING IND	0.0005	0.0006	0.0000	0.0000
61 ALUMINUM RDLLING CASTING, EXTRUDING	0.0004	0.0006	0.0005	0.0010
62 COPPER RDLLING CASTING & EXTRUDING	0.0039	0.0065	0.0035	0.0070
63 OTHER METAL ROLLING, CASTING ETC.	0.0128	0.0219	0.0197	0.0278
64 POWER BOILER & STRUCT. METAL IND.	0.0002	0.0003	0.0005	0.0010
65 ORNAMENTAL & ARCH. METAL PROD. IND.	0.0002	0.0004	0.0005	0.0009
66 STAMPED, PRESSED & COATED METALS	0.0004	0.0011	0.0004	0.0005
67 WIRE AND WIRE PRODUCTS INDUSTRIES	0.0009	0.0022	0.0008	0.0009
68 HARDWARE, TOOL & CUTLERY INDUSTRIES	0.0001	0.0004	0.0002	0.0003
69 HEATING EQUIPMENT INDUSTRY	0.0014	0.0038	0.0050	0.0063
70 MACHINE SHOPS INDUSTRY	0.0002	0.0006	0.0003	0.0005
71 OTHER METAL FABRICATING INDUSTRIES	0.0009	0.0014	0.0002	0.0004
72 AGRICULTURE IMPLEMENT INDUSTRY	0.0004	0.0009	0.0012	0.0018
73 COMMERCIAL REFRIGERATION EQUIPMENT	0.0013	0.0021	0.0050	0.0076
74 OTHER MACHINERY & EQUIPMENT IND.	0.0004	0.0006	0.0007	0.0013
75 AIRCRAFT & AIRCRAFT PARTS INDUSTRY	0.0030	0.0067	0.0079	0.0133
76 MOTOR VEHICLE INDUSTRY	0.0010	0.0028	0.0029	0.0044
77 TRUCK, BUS BDDY & TRAILER INDUSTRY	0.0022	0.0048	0.0020	0.0030
78 MDTDR VEHICLE PARTS & ACCESSDRIES	0.0000	0.0001	0.0002	0.0002
79 RAILROAD ROLLING STOCK INDUSTRY	0.0058	0.0115	0.0058	0.0103
80 SHIPBUILDING AND REPAIR INDUSTRY	0.0103	0.0290	0.0240	0.0460
81 MISC. TRANSPORTATION EQUIPMENT IND.	0.0028	0.0079	0.0037	0.0067
82 SMALL ELECTRICAL APPLIANCE INDUSTRY	0.0004	0.0005	0.0007	0.0014
83 MAJOR APPLIANCES (ELEC & NON-ELEC.)	0.0004	0.0011	0.0016	0.0017
84 RECORD PLAYERS, RADIO & TV RECEIVER	0.0051	0.0081	0.0220	0.0289
85 ELECTRONIC EQUIPMENT INDUSTRIES	0.0011	0.0028	0.0021	0.0032
86 OFFICE, STORE & BUSINESS MACHINES	0.0059	0.0122	0.0111	0.0150
87 COMMUNICATIONS, ENERGY WIRE & CABLE	0.0005	0.0011	0.0009	0.0015
88 BATTERY INDUSTRY	0.0038	0.0076	0.0115	0.0156
89 OTHER ELECT. & ELECTRONIC PRODUCTS	0.0004	0.0005	0.0000	0.0000
90 CLAY PRODUCTS INDUSTRY	0.0041	0.0075	0.0010	0.0014

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AGGREGATE INPUT STRUCTURE* FOR 1981-1984

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTRDPY	AVERAGE RAW ENTROPY	MAXIMUM ENTRDPY
91 CEMENT INDUSTRY	0.0029	0.0048	0.0015	0.0029
92 CONCRETE PRODUCTS INDUSTRY	0.0000	0.0000	0.0000	0.0000
93 READY-MIX CONCRETE INDUSTRY	0.0010	0.0023	0.0010	0.0014
94 GLASS & GLASS PRODUCTS INDUSTRIES	0.0005	0.0009	0.0008	0.0015
95 NON-METALIC MINERAL PRODUCTS NEC	0.0005	0.0006	0.0010	0.0020
96 REFINED PETROLEUM & COAL PRODUCTS	0.0001	0.0002	0.0002	0.0003
97 INDUSTRIAL CHEMICALS INDUSTRIES NEC	0.0005	0.0009	0.0012	0.0023
98 PLASTIC & SYNTHETIC RESIN INDUSTRY	0.0045	0.0071	0.0027	0.0054
99 PHARMACEUTICAL & MEDICINE INDUSTRY	0.0004	0.0009	0.0006	0.0012
100 PAINT AND VARNISH INDUSTRY	0.0031	0.0060	0.0045	0.0063
101 SOAP & CLEANING COMPOUNDS INDUSTRY	0.0002	0.0004	0.0003	0.0005
102 TOILET PREPARATIONS INDUSTRY	0.0032	0.0062	0.0006	0.0009
103 CHEMICAL & CHEMICAL PRODUCTS NEC	0.0004	0.0011	0.0010	0.0013
104 JEWELLERY & PRECIOUS METAL IND.	0.0013	0.0031	0.0009	0.0012
105 SPORTING GOODS & TOY INDUSTRIES	0.0011	0.0017	0.0002	0.0004
106 SIGN AND DISPLAY INDUSTRY	0.0006	0.0011	0.0019	0.0026
107 FLOOR TILE, LINOLEUM, COATED FABRIC	0.0101	0.0250	0.0052	0.0086
108 OTHER MANUFACTURING INDUSTRIES NEC	0.0005	0.0007	0.0001	0.0001
109 REPAIR CONSTRUCTION	0.0006	0.0011	0.0009	0.0017
110 RESIDENTIAL CONSTRUCTION	0.0011	0.0015	0.0017	0.0033
111 NON-RESIDENTIAL BLDG. CONSTRUCTION	0.0003	0.0009	0.0008	0.0014
112 ROAD, HIGHWAY & AIRSTRIP CONST.	0.0016	0.0038	0.0027	0.0048
113 GAS & OIL FACILITY CONSTRUCTION	0.0048	0.0105	0.0066	0.0075
114 DAMS & IRRIGATION PROJECTS	0.0142	0.0218	0.0277	0.0550
115 RAILWAY & TELEPHONE TELEGRAPH CONST	0.0008	0.0014	0.0013	0.0026
116 OTHER ENGINEERING CONSTRUCTION	0.0010	0.0025	0.0016	0.0028
117 CONSTRUCTION, OTHER ACTIVITIES	0.0007	0.0020	0.0007	0.0014
118 AIR TRANSPORT & SERVICES INCIDENTAL	0.0017	0.0026	0.0076	0.0087
119 RAILWAY TRANSPORT & REL. SERVICES	0.0047	0.0092	0.0081	0.0144
120 WATER TRANSPORT & REL. SERVICES	0.0019	0.0032	0.0067	0.0113
121 TRUCK TRANSPORT INDUSTRIES	0.0005	0.0009	0.0018	0.0030
122 URBAN TRANSIT SYSTEM INDUSTRY	0.0049	0.0127	0.0112	0.0183
123 INTERURBAN & RURAL TRANSIT SYSTEMS	0.0002	0.0003	0.0006	0.0010
124 TAXICAB INDUSTRY	0.0014	0.0025	0.0018	0.0032
125 OTHER TRANSPORT & SERV. TO TRANSP.	0.0037	0.0054	0.0072	0.0142
126 HIGHWAY & BRIDGE MAINTENANCE IND.	0.0034	0.0086	0.0055	0.0083
127 PIPELINE TRANSPORT INDUSTRIES	0.0021	0.0053	0.0028	0.0034
128 STORAGE AND WAREHOUSING INDUSTRIES	0.0024	0.0070	0.0045	0.0085
129 TELECOMMUNICATION BROADCASTING IND.	0.0003	0.0004	0.0012	0.0018
130 TELECOMMUNICATION CARRIERS & OTHER	0.0001	0.0003	0.0001	0.0002
131 POSTAL SERVICE INDUSTRY	0.0003	0.0004	0.0006	0.0011
132 ELECTRIC POWER SYSTEMS INDUSTRY	0.0005	0.0010	0.0002	0.0002
133 GAS DISTRIBUTION SYSTEMS INDUSTRY	0.0009	0.0023	0.0013	0.0020
134 OTHER UTILITY INDUSTRIES NEC	0.0010	0.0030	0.0012	0.0024
135 WHOLESALE TRADE INDUSTRIES	0.0003	0.0007	0.0005	0.0008

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FROM AN INDUSTRY DECOMPOSITION OF THE CONSTANT PRICE

AGGREGATE INPUT STRUCTURE* FOR 1981-1984

INDUSTRY	ONE YEAR INTERVAL		TWO YEAR INTERVAL	
	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY	AVERAGE RAW ENTROPY	MAXIMUM ENTROPY
136 RETAIL TRADE INDUSTRIES	0.0000	0.0001	0.0001	0.0002
137 BANKS, CREDIT UNION & OTH. DEP INST	0.0011	0.0033	0.0038	0.0044
138 TRUST, OTHER FINANCE & REAL ESTATE	0.0029	0.0067	0.0048	0.0084
139 INSURANCE INDUSTRIES	0.0015	0.0021	0.0018	0.0036
140 GOVT. ROYALTIES ON NAT. RESOURCES	0.0000	0.0000	0.0000	0.0000
141 OWNER OCCUPIED DWELLINGS	0.0000	0.0000	0.0000	0.0000
142 OTHER BUSINESS SERVICE INDUSTRIES	0.0006	0.0013	0.0002	0.0004
143 PROFESSIONAL BUSINESS SERVICES	0.0001	0.0001	0.0002	0.0004
144 ADVERTISING SERVICES	0.0002	0.0007	0.0002	0.0005
145 EDUCATIONAL SERVICE INDUSTRIES	0.0013	0.0039	0.0016	0.0033
146 HOSPITALS	0.0028	0.0075	0.0052	0.0090
147 OTHER HEALTH SERVICES	0.0001	0.0001	0.0002	0.0004
148 ACCOMMODATION & FOOD SERVICE IND.	0.0001	0.0001	0.0003	0.0004
149 MOTION PICTURE & VIDEO INDUSTRIES	0.0016	0.0036	0.0008	0.0016
150 OTHER AMUSEMENT & RECREATIONAL SERV	0.0003	0.0007	0.0004	0.0004
151 LAUNDRIES & CLEANERS	0.0005	0.0005	0.0000	0.0000
152 OTHER PERSONAL SERVICES	0.0005	0.0013	0.0013	0.0019
153 PHOTOGRAPHERS	0.0013	0.0034	0.0034	0.0058
154 MISC. SERVICE INDUSTRIES	0.0002	0.0006	0.0009	0.0011
155 OPERATING SUPPLIES	-.0000	0.0000	-.0000	-.0000
156 OFFICE SUPPLIES	0.0000	0.0000	0.0000	0.0000
157 CAFETERIA SUPPLIES	0.0000	0.0000	0.0000	0.0000
158 LABORATORY SUPPLIES	0.0000	0.0000	0.0000	0.0000
159 TRAVEL & ENTERTAINMENT	0.0000	0.0000	-.0000	0.0000
160 ADVERTISING & PROMOTION	0.0000	0.0000	0.0000	0.0000
161 TRANSPORTATION MARGINS	-.0000	0.0000	-.0000	0.0000

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