MARYLAND INTERINDUSTRY FORECASTING PROJECT

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INVENTORIES IN THE INPUT-OUTPUT MODEL

by

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Inventory investment represents a relatively small but volatile portion of final demand. Though it seldom absorbs more than 2 percent of GNP, it may rise to 5 or 6 percent of output for particular products. It is therefore necessary to account for inventory investment even in a long-term forecasting model. Moreover, it is certainly desirable to connect inventory investment with expansion of output, and this memorandum presents the first steps toward that end. The inventory structure developed in this manner will become more important when the input-output model is extended to include short-run applications.

The present model provides for a 93-element vector of incremental inventory-output ratios called VENMAT. Up until now, all elements of this vector have been zero. If VENMAT is assumed constant over time, then inventory change (ΔV_k) for any product k is:

$$\Delta V_k = VENMAT_k \times \Delta S_k$$

where ΔS_k is the first difference in shipments of product k, excluding shipments for inventory-building. Summing over all k we get the total net addition to GNP.*

Of course, the rub in this calculation is the construction of VENMAT itself. In order to build up this vector we must know how much of each input-output product is held in inventory no matter where held: in manufacturing establishments (as finished goods or materials), in wholesale or retail trade, on farms, or with other (much smaller) holders. For the most part, however, our information on inventories is classified not by

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*This is called GNP (3) in the forecasting program subroutine IOCOMP.

product, but by holder. For example, we know the total year-end stocks held by department stores, but not what portion of these stocks were furniture or apparel. We need a matrix, say B, such that each element, b_{ij}, shows the fraction of product i in a dollar's worth of inventory held by holder j. Then using our known vector of year-end stocks by holder, say h, we can simply calculate the vector v of inventories-by-product as

$$v = Bh$$

In the latest (July 1969) MIFP sectoring plan, there are 139 sectors which produce goods that can be kept in inventory. Thus the B matrix has 139 rows. In the h vector we have tried to distinguish as many kinds of business as possible, for the kind of business often reveals a good deal of information about the types of products held. The only limit to the size of h is the extent to which the Census Bureau releases annual inventory data. Table 1 shows the 345 elements currently in h, along with the data source for each.

TABLE I

Number of rows	Holder	Source of Data
1	Farming: Cotton	Survey of Current Business, USDA, Agricultural Statistics
1	Grains	"Stocks of Grains," USDA Crop Reporting Board, GrLg 11-1 (1-68)
1	Tobacco	"Annual Report on Tobacco Statistics," USDA Consumer and Marketing Service
3	Dairying, Poultry, and Eggs, Meat, other livestock products	"Livestock and Poultry Inventory, Jan. 1", USDA Crop R'p'tng Board, LvGnl (67)
8	Mining (incl. petroleum) and Construction	OBE worksheets, IRS Corporate Tax Returns
4	Other producing non-manufacturers	(no inventories assumed)
121	Manufacturers (finished and in-process goods)	Census Bureau: Annual Survey of Manufacturers
121	Manufacturers (materials and supplies)	
1	Consumers of steel mill shapes (Manufacturers)	Census Bureau: Current Industrial Report M33-3
1	Consumers of brass mill shapes (Manufacturers)	Census Bureau: Current Industrial Report M33-K
58	Wholesale Trade	Census Bureau: Monthly Wholesale Trade Report, BW-11, and accompanying unpublished data.
21	Retail Trade	Census Bureau: Annual Retail Trade Report, BR-13
2	Electric Utilities	CIR, M33-K, Survey of Current Business
2	Trade and Transportation (margins)	OBE, 1958 Input-Output Study

Producing Sectors

The columns of the B matrix naturally match these elements of h one-for-one. Some of the elements are easy to specify; most, however, require tenuous assumptions. The first 139 columns simply form an identity matrix--1's on the diagonal and 0's elsewhere--since we can simply read off inventories of finished goods. Inventories of materials (the next 139 columns) are assumed to be composed of "stockable" goods held in proportion to their use as inputs. That is,

$$b_{i,\ j+139} = \frac{a_{ij}}{\sum_i a_{ij}} \quad \text{for } i \in I$$

where I is the set of inputs that can be carried in inventory, and a_{ij} is the usual input-output coefficient. Agricultural services and construction do not belong to the set I.

Steel and copper also do not belong to I, but these products are accounted for separately. The Current Industrial Reports (CIR) and the Survey of Current Business (SCB) give extra insight into the distribution of these inventories. For steel, there is a total tonnage figure for holdings of all consumers (manufacturers only). This is multiplied by a composite price found in the SCB, which gives a control total for steel materials in in the vector v. It is also suggested in the CIR M33-3 that 80 percent of ratio is placed directly into the B matrix. More detail is given in CIR M33-K concerning brass mill shapes. Subtotals of holdings by certain two-digit SIC groups and electric utilities are given, and there is a breakdown by shape for the total. Using this data and rough weighted averages of

the appropriate BLS wholesale prices, several control subtotals were obtained. The prices used for estimates such as this are always the average of the December and the following January prices. This is OBE's method of approximating year-end prices. For simplicity, it was assumed that all copper wire is held by the electrical machinery industry and by electric-power utilities. Data for the latter category is given only for investor-owned firms, which account for 75 percent of all sales to ultimate consumers, so an estimate of the total was obtained by bringing this ratio up to 100 percent. These utilities also hold a large quantity of coal; this statistic is found in the SCB.

These known values are inserted as row totals in the inventory-levels matrix produced by B. The entire row (or part of it, in the case of brass) is then adjusted proportionately in order to add to the control total. But now the columns will not add up correctly, so each column vector is also adjusted proportionately (excluding the known row element.)

Data for agriculture and mining are more difficult to find than for manufacturing. The following summarizes a few of these sectors:

(a) Data for stocks of grains and of tobacco are in physical units. Values are obtained by using the season average prices from Agricultural Statistics.

(b) Stocks of fruits and vegetables on farms are assumed to be zero on December 31. This estimate is not only reasonable, but necessary, for USDA assigns the difference between production and shipments to "apparent consumption" on farms.

(c) Dairying inventories consist of the value of milk cows on farms.

Because the forecasting model is now run with only 74 sectors that produce stockable items, all the preceding data (on a 139-sector basis) was aggregated after the calculations.

Wholesale and Retail Trade

Each year, almost as much inventory is held in the trade sectors as is in manufacturing. The data, however, are much more scarce. We try to identify as many kinds of business as are permitted by the availability of annual data. There are presently 79 types, 58 in wholesale trade, and 21 in retail, a list of which may be found in the appendix.

The wholesale categories are derived from the 1963 Census of Business. Annual inventory data in this amount of detail are not entirely carried in the Monthly Wholesale Trade Report, but Census has supplied us with a set of unpublished statistics.* Merchant wholesalers, independent traders who hold title to the goods they sell, make up the only classification of wholesale trade for which annual data is published. They account for about 75 percent of all wholesale inventories. Non-published annual data for other classifications, such as manufacturers' sales branches and assemblers of farm products, were obtained from OBE worksheets.* These were estimated by OBE, using detail information from the 1963 Census of Business. No annual data is separately available for petroleum bulk stations and terminals, although in Business Census years, we see that they are quite important. Yearly inventories were estimated by using changes in prices and in total

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* Mr. Harvey Keilen of the Business Division is responsible for the trade data. Miss Shirley Loftus of the National Income Division supplied the remaining unpublished data.

physical stocks (found in the Minerals Yearbook), then benchmarking back to 1963. Retail trade, with fewer types-of-business categories, is easier to handle, and the inventory data may simply be read out from the Annual Retail Trade Report.

Before we can calculate the trade portion of the inventory coefficient matrix "B", we need to know the sales by product of each kind of business. This information is available only in census years, so in the interim we assume that in any one kind of business, there is a constant ratio of the sales of any product to the total sales. For any non-census year all we need do is multiply through by a vector of total sales. The derivation of these sales ratios, however, is not an easy task, since the commodity lines in trade are not at all comparable to the SIC or to our own sectoring. Moreover, the 225 wholesale lines are not even comparable to the 173 in retail trade. Thus it was necessary to analyze the content of each line and assign all or part of it to one of the 139input-output sectors. If a line had to be broken up, the 1963 Census of Manufacturers, Table 6A, was used for forming ratios. Ann Fisher of OBE is currently tackling this problem, but could only release scattered information at this time about some of the more important allocations. Her completed work will be, of course, a bit more accurate than these rather hasty estimates.

As for the inventory calculation itself, it was unreasonable to apply the same inventory-sales ratio for every product held in a certain business. Thus the basic assumption was that the inventory-sales ratio of product i in kind-of-business j (r^t_{ij}) is proportional to that of finished product i in manufacturing industry i (r_i^m). The constant of proportionality is the

term that forces the total figures to add correctly:

$$r_{ij}^{T} = \frac{V_j}{\Sigma r_i^m S_{ij}} \, r_i^m \quad ,$$

where V_j is the inventory total for business j and S_{ij} is the sales of i in business j. After algebraic manipulation we see that

$$B_{ij} = \frac{V_{ij}}{V_j} = \frac{r_i^m \cdot S_{ij}}{\sum_i r_i^m S_{ij}} \quad ,$$

since $r_{ij}^{T} = \frac{V_{ij}}{S_{ij}}$.

So, to estimate inventories by product in trade, we need only to utilize the sales by product (from above) and the shipments for each input-output industry, in addition to the inventory data itself.

Inventory Valuation Adjustment

In order to obtain consistent statistics for the national accounts, OBE adjusts inventory changes for differences between book value (as reported) and current replacement cost (which is desired). The calculation is complex and depends upon knowledge of reported accounting practices, but basically it is just a price adjustment. Knowing the inventories held by product and the actual IVA for trade and manufacturing in the base year, we can use the input-output deflators to estimate IVA by input-output sector. Last year's inventories by product are put into current prices and then adjusted proportionately to the correct total.

Trade and Transportation Margins

In the input-output model it is necessary to have all items reflect producer's prices rather than purchaser's prices. Therefore, at the retail level, we must strip off the wholesale trade margins for each product held. These margins were estimated by assuming that the vector of percentage margins for transportation and wholesale trade has remained constant since 1958 (the latest available OBE data). Retail trade stocks were then adjusted to producer prices using these ratios, and the margins placed into the transportation and trade rows (sectors 75 and 81). (Manufacturers' finished goods are not adjusted upward for manufacturers' profits, for these profits are not actually realized until after the good is sold.)

Calculation of Venmat

With nearly all the long calculations behind us, it is simple to calculate the elements of VENMAT used in the forecasting program. First, in order to meet the limitations of the current 93-sector model, the trade data must be aggregated to 74 producing sectors. Then we add up the trade and manufacturing inventories plus IVA (by product) and compute

$$\text{VENMAT}_i = \frac{V_i}{S_i}$$

where S_i is the shipments of industry i. Conceptually it would be better to define VENMAT as a ratio of first differences rather than of levels. But these ratios would be quite unstable from year to year, while our current VENMAT is almost constant (at least for 1965 and 1966). Thus it was decided to keep the simpler assumption that inventories are proportional to output.

The following table presents the empirical results for 1965 and 1966. Inventory levels are shown for the end of each calendar year, by product, as held either by the trade sector or by any producing (non-trade) sector. Inventory investment for 1966 is found in the "Total Change" column, which is simply the sum of the IVA plus changes in trade and producer stocks. The VENMAT vectors for each year are in the last two columns. Of course, only the VENMAT for the current base year is used in the forecasting model. It is interesting to note that even though 1966 was a year of unusually large inventory accumulation, VENMAT remained relatively constant. Thus, at least for these two years, our proportionality assumption seems to hold up quite well.

The Appendix lists all the kinds of business, wholesale and retail, as identified in this study.

APPENDIX

Kind of Business Classifications

I. Wholesale Trade	SIC Code
1. Motor vehicles	5012
2. Automotive equipment	5013
3. Tires and tubes	5014
4. Drugs, proprietaries	5022
5. Paints, varnishes	5028
6. Other chemicals	5029
7. Dry goods, notions	5032
8. Apparel and accessories	5035
9. Footwear	5039
10. General-line groceries	5042
11. Dairy products	5043
12. Poultry and products	5044
13. Confectionery	5045
14. Fish, seafoods	5046
15. Meats, meat products	5047
16. Fresh fruits and vegetables	5048
17. Other groceries	5049
18. Cotton (raw)	505
19. Grain	505
20. Livestock	505
21. Misc. Farm Products	505
22. Electrical supplies and apparatus	5063

23.	Electrical appliances, TV, radio sets	5064
24.	Electronic parts, equipment	5065
25.	Hardware	5072
26.	Plumbing and heating equipment & supplies	5074
27.	Air conditioning, refrigeration equipment	5077
28.	Commercial machines, equipment	5082
29.	Construction, mining machinery, equipment	5082
30.	Industrial machinery, equipment	5082
31.	Industrial supplies	5082
32.	Farm and garden machinery, equipment	5083
33.	Professional equipment, supplies	5086
34.	Service-establishment equipment, supplies	5087
35.	Transportation equipment, supplies (exc. auto)	5088
36.	Coal	5091
37.	Ferrous Metals Service Centers and Offices	5091
38.	Non-Ferrous Metals Service Centers and Offices	5091
39.	Gasoline, kerosene, fuel oil plants	5092
40.	Liquid petroleum gas bulk plants, terminals	5092
41.	Iron, steel scrap	5093
42.	Waste materials	5093
43.	Tobacco, tobacco products	5094
44.	Beer	5095
45.	Wines, distilled spirits	5095

46.	Printing and writing paper	5096
47.	Industrial and personal service paper	5096
48.	Stationery, office supplies	5096
49.	Furniture (household, office)	5097
50.	Home furnishings, floor coverings	5097
51.	Lumber, millwork	5098
52.	Construction materials	5098
53.	Amusement, sporting goods	5099
54.	Books, periodicals, newspapers	5099
55.	Farm supplies	5099
56.	Jewelry	5099
57.	Gifts, art goods, advertising specialties	5099
58.	Other products	5099

II.	Retail Trade	SIC Code
59.	Lumber yards	5211
60.	Hardware stores	5251
61.	Farm equipment	5252
62.	Building materials, rest of lumber	521 pt,522,3,4
63.	Department stores	531
64.	Variety stores	533
65.	Other general merchandise	539, pt
66.	Grocery stores	541
67.	Other food stores	rest of 54
68.	Automotive dealers	55 exc 554

69.	Gasoline stations	554
70.	Apparel	56
71.	Furniture	5712
72.	Home Furnishings	rest of 571
73.	Appliances	572
74.	Television and Radio	573
75.	Eating and Drinking establishments	58
76.	Drugs and Proprietaries	591
77.	Liquor	592
78.	Jewelry	597
79.	All other	rest of 59

INVENTORY LEVELS AND INVESTMENT

		TRADE STOCKS		CHANGE	PRODUCER STOCKS		CHANGE	IVA	TOTAL CHANGE	VENMAT		IO
		1965	1966		1965	1966				1965	1966	
1	LIVESTOCK	646.2	559.8	-86.9	17825.5	19139.1	1313.6	.0	1226.7	.693	.716	1
2	CROPS	5187.0	4636.1	-524.9	11140.5	11668.0	528.5	.0	3.6	.568	.573	2
3	FORESTRY AND FISHERY	.0	.0	.0	69.4	81.7	12.3	.0	12.3	.034	.038	3
4	AGRICULTURAL SERVICE	.0	.0	.0	.0	.0	.0	.0	.0	.000	.000	4
5	IRON ORE MINING	.0	.0	.0	283.1	372.3	89.2	-.2	88.9	.353	.436	5
6	NON-FERROUS ORE MINI	.0	.0	.0	580.6	609.5	28.8	-8.0	20.8	.348	.345	6
7	COAL MINING	32.3	22.4	-10.3	208.7	216.2	7.5	-3.7	-6.5	.080	.073	7
8	PETROLEUM MINING	.0	.0	.0	567.9	591.8	23.9	-6.2	17.7	.056	.055	8
9	MINERALS MINING	.0	.0	.0	309.4	352.0	42.5	-3.4	39.2	.444	.492	9
10	CHEMICAL MINING	.0	.0	.0	279.9	308.0	28.1	-2.5	25.6	.172	.184	10
11	NEW CONSTRUCTION	.0	.0	.0	.0	.0	.0	.0	.0	.000	.000	11
12	MAINTENANCE CONSTRUC	.0	.0	.0	.0	.0	.0	.0	.0	.000	.000	12
13	ORDNANCE	38.7	46.5	8.5	453.0	733.0	280.0	-4.1	284.4	.106	.122	13
14	MEAT PACKING	577.7	609.4	33.6	564.7	612.9	48.3	-100.2	-18.3	.063	.062	14
15	DAIRY PRODUCTS	210.0	284.6	78.3	256.7	320.6	63.9	-45.4	96.7	.041	.051	15
16	CANNED AND FROZEN FO	2414.8	2615.5	207.2	1561.4	1685.5	124.0	-165.4	165.8	.493	.500	16
17	GRAIN MILL PRODUCTS	139.8	152.8	13.5	430.9	462.1	31.1	-34.7	9.9	.068	.067	17
18	BAKERY PRODUCTS	8.8	10.1	1.4	45.5	51.6	6.1	-3.2	4.3	.009	.010	18
19	SUGAR	531.8	509.4	-23.2	408.2	405.9	-2.3	-28.8	-54.4	.482	.446	19
20	CANDY	509.1	527.9	20.2	225.5	238.9	13.5	-7.4	26.3	.333	.328	20
21	BEVERAGES	1971.7	2099.1	138.2	1091.8	1157.6	65.8	-29.4	174.6	.408	.402	21
22	MISC FOOD PRODUCTS	883.8	889.0	5.1	765.9	814.4	48.5	-46.6	7.0	.185	.177	22
23	TOBACCO	305.0	329.4	25.2	976.3	951.1	-25.2	-68.4	-68.4	.278	.271	23
24	FABRICS AND YARN	459.1	485.3	26.4	2129.5	2493.4	364.0	-46.7	343.7	.229	.245	24
25	RUGS, TIRE CORD, MIS	520.2	590.3	74.0	498.1	558.6	60.4	-6.0	128.4	.352	.369	25
26	APPAREL	5725.6	6394.6	693.5	2009.3	2342.5	333.2	4.7	1031.4	.399	.427	26
27	HOUSEHOLD TEXTILES A	497.8	568.0	76.7	248.2	286.3	38.1	-2.9	111.9	.264	.284	27
28	LUMBER + PRODUCTS, E	933.7	1002.6	71.6	1321.3	1431.7	110.4	-111.2	70.8	.330	.341	28
29	WOODEN CONTAINERS	211.4	244.4	33.0	239.7	258.4	18.7	-31.6	20.1	.146	.157	29
30	HOUSEHOLD FURNITURE	944.7	1087.4	148.4	337.9	397.8	59.9	-32.6	175.6	.280	.301	30
31	OFFICE FURNITURE	267.8	296.4	29.3	208.0	231.9	23.9	-133.6	-80.4	.233	.227	31
32	PAPER + PRODUCTS EXC	469.0	633.9	169.5	1839.7	2117.3	277.6	-75.2	371.9	.176	.191	32
33	PAPER CONTAINERS	85.6	104.7	19.1	874.4	988.4	114.0	-20.8	112.3	.184	.190	33
34	PRINTING AND PUBLISH	586.8	725.7	151.0	1127.3	1345.4	218.1	-38.6	330.5	.095	.106	34
35	BASIC CHEMICALS	459.6	527.9	74.1	2676.0	3257.3	581.3	-94.0	561.4	.176	.196	35
36	PLASTICS AND SYNTHET	7.5	6.7	-.8	1159.4	1362.3	202.8	3.3	205.4	.174	.185	36
37	DRUGS,CLEANING + TOI	1771.3	2005.2	258.2	892.0	1032.2	140.2	-1.0	397.4	.285	.298	37
38	PAINT AND ALLIED	144.6	156.1	12.0	322.8	372.6	49.8	-59.3	2.5	.171	.181	38
39	PETROLEUM REFINING	2447.4	2521.4	73.3	1682.5	1759.1	76.6	-155.4	-5.4	.227	.220	39
40	RUBBER AND PLASTIC	476.8	517.4	41.4	1574.4	1817.6	243.2	-32.5	252.1	.192	.198	40
41	LEATHER TANNING	222.5	232.1	9.5	168.6	185.7	17.1	-48.3	-21.7	.463	.456	41
42	SHOES AND OTHER LEAT	994.2	1046.6	55.2	330.5	363.4	33.0	154.3	242.4	.338	.332	42
43	GLASS AND GLASS PROD	314.6	349.2	37.3	592.3	681.1	88.8	-18.8	107.3	.283	.299	43
44	STONE + CLAY PRODUCT	498.2	589.2	96.9	1101.9	1286.9	185.0	-1.9	279.9	.155	.174	44
45	IRON AND STEEL	862.4	995.2	132.9	4462.7	4322.4	-140.3	329.6	322.2	.182	.176	45
46	COPPER	169.6	230.1	60.5	1357.2	1526.4	169.2	-114.6	115.1	.231	.219	46
47	ALUMINUM	126.3	116.2	-10.1	1242.9	1520.8	277.9	7.9	275.6	.252	.259	47
48	OTHER NON-FERROUS ME	147.3	130.8	-16.5	1087.8	1369.5	281.7	-54.8	210.4	.383	.411	48
49	METAL CONTAINERS	29.1	26.7	-2.4	573.0	603.3	30.3	-11.9	16.0	.179	.169	49
50	HEATING, PLUMBING, S	1003.3	1064.6	63.3	1258.4	1384.6	126.2	-55.9	133.7	.229	.222	50
51	STAMPINGS, SCREW MAC	85.5	88.1	2.7	1012.1	1221.9	209.8	-28.0	184.5	.200	.206	51
52	HARDWARE,PLATING,VAL	1367.1	1477.3	117.8	1565.6	1790.6	224.9	-128.6	214.1	.352	.353	52

		TRADE STOCKS		CHANGE	PRODUCER STOCKS		CHANGE	IVA	TOTAL CHANGE	VENMAT		IO
		1965	1966		1965	1966				1965	1966	
53	ENGINES AND TURBINES	.0	.0	.0	587.5	703.2	115.7	-14.9	100.8	.229	.241	53
54	FARM MACHINERY AND E	1529.1	1805.2	311.8	586.8	675.8	89.0	-29.1	371.8	.649	.622	54
55	CONSTRUCTION + MININ	653.0	824.4	171.4	881.7	974.5	92.8	-65.9	198.3	.313	.343	55
56	MATERIAL HANDLING	29.7	38.8	9.0	266.7	358.7	92.0	-9.4	90.6	.156	.171	56
57	METALWORKING MACHINE	146.0	159.7	13.7	1371.5	1645.8	274.3	-67.1	220.9	.253	.253	57
58	SPECIAL INDUSTRIAL	453.4	553.7	100.6	817.2	976.3	159.1	-13.7	246.0	.302	.312	58
59	GENERAL INDUSTRIAL	634.2	715.9	81.6	1348.2	1641.2	293.1	-62.8	311.9	.763	.809	59
60	MACHINE SHOPS + MISC	.0	.0	.0	395.7	479.9	84.2	-25.2	59.0	.170	.168	60
61	OFFICE AND COMPUTING	297.3	332.8	40.6	1097.2	1350.3	253.2	-36.8	257.0	.338	.290	61
62	SERVICE INDUSTRY	324.3	364.4	40.1	565.9	668.5	102.7	-1.0	141.7	.261	.261	62
63	ELECTRIC APPARATUS A	213.5	256.1	42.6	1353.4	1666.8	313.4	-58.7	297.3	.223	.236	63
64	HOUSEHOLD APPLIANCES	1642.4	2086.9	484.5	601.0	730.3	129.9	-17.9	596.5	.502	.593	64
65	ELECTRIC LIGHTING AN	384.4	454.7	71.4	391.5	456.6	65.1	-35.4	101.2	.276	.288	65
66	COMMUNICATION EQUIPM	683.7	962.8	300.8	1976.1	2468.1	491.9	294.6	1087.4	.217	.245	66
67	ELECTRONIC COMPONEN	285.2	323.3	38.1	1151.5	1546.4	394.9	17.3	450.3	.285	.281	67
68	BATTERIES,X-RAY + EN	589.5	658.3	75.9	355.4	438.6	83.2	-6.1	153.0	.354	.350	68
69	MOTOR VEHICLES	6324.2	7287.6	1010.0	2810.7	3131.2	320.5	-63.1	1267.4	.205	.238	69
70	AIRCRAFT AND PARTS	36.8	171.2	74.5	3381.0	4715.2	1334.3	-26.9	1381.8	.245	.290	70
71	SHIPS, TRAINS, TRAIL	222.9	296.6	76.8	966.5	1184.0	217.5	-23.5	270.8	.195	.220	71
72	INSTRUMENTS AND CLOC	442.9	555.2	122.0	787.3	955.3	168.0	-417.1	-127.1	.282	.317	72
73	OPTICAL, PHOTOGRAPHI	544.3	603.0	63.1	423.6	566.0	142.5	-15.8	189.8	.327	.313	73
74	MISC MANUFACTURED	1967.0	1983.4	4.9	902.7	884.2	-18.4	-39.6	-53.1	.404	.380	74
75	TRANSPORTATION MARGI	811.8	898.7	87.0	.0	.0	.0	.0	.0	.018	.019	75
81	TRADE MARGINS	2195.7	2434.8	239.1	.0	.0	.0	.0	.0	.158	.165	81
	TOTALS	55755.6	61271.4	5515.8	94957.5	107300.0	12342.5	-2080.0	15778.3			