

**TECHNICAL REPORT**

**CALIBRATION OF PRODUCTION SECTOR IN RELU**

**ALEX ANAS and DEBARSHI INDRA**

**JUNE 2012**

## 1. IMPLAN

IMPLAN is a computer software program from MIG Inc that uses an internal database to generate Social Account Matrix (SAM) for a region for a given year. A SAM is a double entry bookkeeping system in which receipts must balance expenditures. It is created by adding non-market inter institutional flows to the traditional Input-Output table.

Institutions in SAM include industries, households, governments and capital. Non market inter institutional flows consist of taxes paid by households to governments, transfer from governments to households, transfer of funds from businesses to households and between households. A sector called Enterprise in SAM captures corporate profits. Industry profits are payments to the enterprise sector.

The region that a SAM represents can be a zip code, county, state or a combination of them. The region can also be the entire US. In our case a region is a county. The year is 2000.

	Industry	Commodity	Factors	Institutions	Enterprises	Capital	Trade	Total
Industry		<i>Make</i>					<i>Exports</i>	Total Industry Income
Commodity	<i>Use</i>			<i>Consumption</i>		<i>Consumption</i>		Total Commodity Income
Factors	<i>Value Added</i>						<i>Exports</i>	Total Factor Income
Institutions		<i>Sales</i>	<i>Transfers</i>	<i>Transfers</i>	<i>Transfers</i>		<i>Exports</i>	Total Institution Income
Enterprises								Total Enterprise Income
Capital						<i>Transfers</i>	<i>Exports</i>	Total Capital Income
Trade	<i>Imports</i>		<i>Factor Trade</i>	<i>Imports</i>		<i>Transfer</i>	<i>Exports</i>	Total Trade Income
Total	Total Industry Outlay	Total Commodity Outlay	Total Factor Outlay	Total Institution Outlay	Total Enterprise Outlay	Total Capital Outlay	Total Trade Outlay	

We run the IMPLAN program to generate seven SAMs, one for each of the six counties in the project, and one that combines all the six counties to create a region. We are interested in industry cost shares given in a SAM. The industry cost shares are shown in the tables below, one for each county. Each SAM has eleven industries that were created by aggregating IMPLAN sectors.





The categories in the tables above are explained below. These explanations are taken from MIG Inc's manual.

In the tables above, columns add to 100. The columns make payments, the rows receive payments.

**The first eleven rows are industry cost shares for intermediate inputs supplied by industries located within the county. It does not include payments for intermediate inputs from outside the county.**

***“Employee compensation*** is wage and salary payments as well as benefits, including: health and life insurance, retirement payments, and any other non-cash compensation. It includes all income to workers paid by employers”.

***“Proprietary income*** consists of payments received by self-employed individuals as income. This is income recorded on Federal Tax Form 1040C. Proprietary income includes income received by private business owners, doctors, lawyers, and so forth. Any income a person receives for payment of self-employed work is counted”.

***“Other property type income*** consists of payments from interest, rents, royalties, dividends, and profits. This includes payments to individuals in the form of rents received on property, royalties from contracts, and dividends paid by corporations. This also includes corporate profits earned by corporations”.

***“Indirect business taxes*** consist primarily of excise and sales taxes paid by individuals to businesses. These taxes occur during the normal operation of these businesses but do not include taxes on profit or income”.

***“Foreign trade and Domestic trade”*** represent industry cost shares for intermediate inputs that are obtained from outside the US and outside the county but within the US respectively.

The industry **‘OTHER’** includes the following industries. Their explanations are given below. Again they are taken from the MIG manual.

<b>Industry ‘Other’ Components</b>	<b>Explanation</b>
OWNER OCCUPIED DWELLINGS	Owner occupied dwellings is a special sector developed by BEA. It estimates what owner/occupants would pay in rent if they rented rather than owned their homes. This sector creates an industry out of owning a home. Its production function represents repair and maintenance of that home. There is no employment or employee compensation for this industry. Indirect business taxes are largely made up of property taxes paid by the homeowner and the other property income is the difference between the rental value of the home and the costs of home ownership. Interest payments and mortgage payments are a transfer in the SAM and are not part of the production functions for this sector. Its sole product (output) is ownership and is purchased entirely by personal consumption expenditures – i.e., the household sector.

NONCOMPARABLE IMPORTS	Non-comparable imports consist of goods that are not available anywhere in the nation.
SCRAP	Scrap is only a by-product commodity. There is no unique “Scrap” industry. Scrap consists of commodities that are cast off as part of a production process and then resold as scrap.
COMMODITY CREDIT CORPORATIONS	NA
DUMMY	Dummy industries are used to simplify the process of estimating transactions (that is, inputs of commodities used by industries and final users) by grouping related items that are generally assumed to be purchased in the same proportion by many different industries. Purchases of these related items are consolidated under one dummy industry, rather than being treated as purchases of individual items. Then, before the I-O table is balanced, weights can be calculated for every item in the dummy industry, and these weights applied to every purchase of the dummy commodity in order to break out these purchases into their component items. For example, office supplies are used by all industries, and some data exist for the value of office supplies purchased by industries. The purchases of office supply items—paper, pens, staples, etc.—are consolidated, and shown as purchased by the dummy industry “office supplies” and other industries are shown buying the dummy commodity “office supplies” rather than the individual office supply items. (BEA)
INVENTORY VALUATIONS ADJUSTMENT	Inventory valuation adjustment is an estimate of the value of goods removed from inventory that were produced in a previous time period. Since the value of these goods is different from the value of goods produced in the present time, this adjustment aligns the value of those goods.
USED AND SECONDHAND GOODS	Used and second hand goods are also only a commodity. It consists of goods that have been previously used and then resold.
REST OF WORLD INDUSTRY	Rest-of-world consists of net foreign flows of factor income.

## 2. Trade Flows

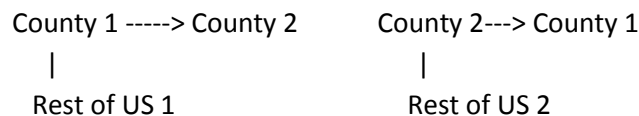
To determine the industry cost shares for intermediate inputs from outside the county (but within the US) the following method was adopted. Note that the sum of industry cost shares for intermediate inputs must equal the industry cost share for '**DOMESTIC TRADE**' in the tables in section one. We describe them step by step.

1. We determine the total dollar value of inter county trade flow for each industry by using the following formula.

$$trade\ flow^i = \sum_{c=1}^6 E_c^i - E_R^i, i = \text{industry}, c = \text{county}, R = \text{region (counties combined)}$$

$E_c^i = \text{domestic export by industry } i \text{ in county } c.$   
 $E_R^i = \text{domestic exports by industry } i \text{ in the region.}$

Note that, for a county, domestic exports are the sum of exports to the other counties in the region plus exports to the outside region. For the region, which is made up of the six counties, domestic exports include only exports to the outside region. In addition, the total domestic exports from the region must equal the sum of the exports to the outside region from the individual counties. This fact helps us to impute the trade flow by the equation in step 1 (see figure below). Note we only know,  $E_c^i$  and  $E_R^i$ .



Region -----> Rest of US = Rest of US 1+Rest of US 2

Industry	*County Trade Flow (\$)	**Regional Domestic Exports (\$)	Regional Domestic Imports (\$)
Agriculture, forestry, fishing, mining	0	12,275,229,245	21,711,551,330
Construction	3,631,861,927	0	756,103,351
Manufacturing	18,866,216,003	36,867,929,825	45,589,884,628
TCW	355,795,774	17,710,557,847	17,853,717,783

Electric, gas, sanitary services	765,558,017	0	2,841,913,648
Wholesale trade	1,623,685,349	9,413,787,599	0
Retail trade	599,518.5	10,483,362,387	4,473,691,408
FIRE	143,958,191	49,099,338,642	33,777,523,006
Others	42,350.85	5,342,241,780	5,660,538,024
Services	4,86,031,850	61,853,474,025	30,719,705,203
Public administration	1,282,385	2,224,548,502	67,736,367

2. Note the following.

$$\text{tradeflow}^i = \sum_c \sum_{c'} E_{cc'}^i, c, c' \text{ are counties, } E_{cc'}^i = 0, \text{ if } c = c'$$

$$E_{cc'}^i = \text{export from county } c \text{ to county } c'.$$

We assume.

$$\sum_{c'} E_{cc'}^i = \text{tradeflow}^i \left( \frac{E_c^i}{\sum_d E_d^i} \right) = \text{total exports from county } c \text{ to all other counties}$$

We then assume.

$$E_{cc'}^i = \frac{y_{c'}^{\alpha_i} D_{cc'}^{\beta_i}}{\sum_d y_{d'}^{\alpha_i} D_{cd'}^{\beta_i}} \left( \sum_{c'} E_{cc'}^i \right) = \text{export from county } c \text{ to county } c'$$

3. We then assume.

$$\sum_c I_{c'c}^i = \text{tradeflow}^i \left( \frac{I_{c'}^i}{\sum_{d'} I_{d'}^i} \right), I = \text{imports.}$$

$$I_{c'c}^i \text{ is imports into county } c' \text{ from county } c.$$

4. We then solve the following optimization problem to get  $\alpha_i$ . We set  $\beta_i = -1$ .

$$\min_{\beta_i} \sum_{c'} \left( \frac{\sum_c E_{cc'}^i - \sum_c I_{c'c}^i}{\sum_c I_{c'c}^i} \right)^2$$



Industry	*Parameter ( $\beta, \gamma = -1$ )
Agriculture, forestry, fishing, mining	-
Construction	0.67
Manufacturing	1.65
TCW	1.06
Electric, gas, sanitary services	0.81
Wholesale trade	4.57
Retail trade	0.86
FIRE	1.02
Others	0.88
Services	1.07
Public administration	1.02

Imperial	Los.Angeles	Orange	Riverside	San.Bernardino	Ventura	County	Industry
0.00	0.00	0.00	0.00	0.00	0.00	Imperial	Construction
0.00	0.00	0.00	0.00	0.00	0.00	Los Angeles	Construction
14.28	34.38	0.00	0.00	0.00	0.00	Orange	Construction
56.59	33.73	0.00	0.00	0.00	0.00	Riverside	Construction
9.61	8.99	0.00	0.00	0.00	0.00	San Bernardino	Construction
2.29	5.67	0.00	0.00	0.00	0.00	Ventura	Construction
17.23	17.23	0.00	0.00	0.00	0.00	Rest of US	Construction

Imperial	Los.Angeles	Orange	Riverside	San.Bernardino	Ventura	County	Industry
0.00	0.38	0.12	0.04	0.03	0.10	Imperial	Manufacturing
0.29	0.00	39.02	2.89	4.20	31.77	Los Angeles	Manufacturing
0.04	18.51	0.00	0.51	0.58	2.50	Orange	Manufacturing
0.06	6.70	2.48	0.00	0.86	1.37	Riverside	Manufacturing
0.06	9.56	2.80	0.85	0.00	1.94	San Bernardino	Manufacturing
0.01	3.89	0.64	0.07	0.10	0.00	Ventura	Manufacturing
99.53	60.97	54.93	95.64	94.21	62.32	Rest of US	Manufacturing

Imperial	Los.Angeles	Orange	Riverside	San.Bernardino	Ventura	County	Industry
0.00	0.00	0.00	0.00	0.00	0.00	Imperial	Transportation, communications, warehousing
0.88	0.00	5.36	1.49	2.32	3.56	Los Angeles	Transportation, communications, warehousing
0.07	0.35	0.00	0.13	0.16	0.14	Orange	Transportation, communications, warehousing
0.00	0.00	0.00	0.00	0.00	0.00	Riverside	Transportation, communications, warehousing
0.07	0.15	0.16	0.18	0.00	0.09	San Bernardino	Transportation, communications, warehousing
0.01	0.06	0.04	0.02	0.02	0.00	Ventura	Transportation, communications, warehousing
98.97	99.44	94.45	98.18	97.50	96.21	Rest of US	Transportation, communications, warehousing

Imperial	Los.Angeles	Orange	Riverside	San.Bernardino	Ventura	County	Industry
0.00	7.00	2.24	2.44	13.61	1.90	Imperial	Electric, gas, sanitary services
6.60	0.00	8.37	2.26	19.74	7.32	Los Angeles	Electric, gas, sanitary services
0.00	0.00	0.00	0.00	0.00	0.00	Orange	Electric, gas, sanitary services
0.00	0.00	0.00	0.00	0.00	0.00	Riverside	Electric, gas, sanitary services
16.99	26.14	7.67	8.47	0.00	5.71	San Bernardino	Electric, gas, sanitary services
0.00	0.00	0.00	0.00	0.00	0.00	Ventura	Electric, gas, sanitary services
76.41	66.86	81.72	86.83	66.66	85.07	Rest of US	Electric, gas, sanitary services

Imperial	Los.Angeles	Orange	Riverside	San.Bernardino	Ventura	County	InstitutionReceipts
0.00	0.00	0.00	0.00	0.00	0.00	Imperial	Wholesale trade
45.47	0.00	0.00	41.83	47.65	61.68	Los Angeles	Wholesale trade
54.53	0.00	0.00	58.17	52.35	38.32	Orange	Wholesale trade
0.00	0.00	0.00	0.00	0.00	0.00	Riverside	Wholesale trade
0.00	0.00	0.00	0.00	0.00	0.00	San Bernardino	Wholesale trade
0.00	0.00	0.00	0.00	0.00	0.00	Ventura	Wholesale trade
0.00	0.00	0.00	0.00	0.00	0.00	Rest of US	Wholesale trade

Imperial	Los.Angeles	Orange	Riverside	San.Bernardino	Ventura	County	Industry
0.00	0.00	0.00	0.00	0.00	0.00	Imperial	Retail trade
0.00	0.00	0.02	0.01	0.01	0.02	Los Angeles	Retail trade
0.00	0.01	0.00	0.00	0.00	0.00	Orange	Retail trade
0.00	0.00	0.00	0.00	0.00	0.00	Riverside	Retail trade
0.00	0.00	0.00	0.00	0.00	0.00	San Bernardino	Retail trade
0.00	0.00	0.00	0.00	0.00	0.00	Ventura	Retail trade
99.99	99.99	99.97	99.99	99.99	99.98	Rest of US	Retail trade

Imperial	Los.Angeles	Orange	Riverside	San.Bernardino	Ventura	County	Industry
0.00	0.00	0.00	0.00	0.00	0.00	Imperial	Finance, insurance, real estate
0.06	0.00	0.80	0.24	0.32	0.56	Los Angeles	Finance, insurance, real estate
0.02	0.24	0.00	0.10	0.10	0.10	Orange	Finance, insurance, real estate
0.00	0.01	0.01	0.00	0.02	0.01	Riverside	Finance, insurance, real estate
0.00	0.01	0.01	0.01	0.00	0.01	San Bernardino	Finance, insurance, real estate
0.00	0.01	0.01	0.00	0.00	0.00	Ventura	Finance, insurance, real estate
99.91	99.73	99.17	99.64	99.56	99.32	Rest of US	Finance, insurance, real estate

Imperial	Los.Angeles	Orange	Riverside	San.Bernardino	Ventura	County	Industry
0.00	0.00	0.00	0.00	0.00	0.00	Imperial	Others
0.00	0.00	0.00	0.00	0.00	0.00	Los Angeles	Others
0.00	0.00	0.00	0.00	0.00	0.00	Orange	Others
0.00	0.00	0.00	0.00	0.00	0.00	Riverside	Others
0.00	0.00	0.00	0.00	0.00	0.00	San Bernardino	Others
0.00	0.00	0.00	0.00	0.00	0.00	Ventura	Others
100.00	100.00	100.00	100.00	100.00	100.00	Rest of US	Others

Imperial	Los.Angeles	Orange	Riverside	San.Bernardino	Ventura	County	Industry
0.00	0.00	0.00	0.00	0.00	0.00	Imperial	Services
0.25	0.00	4.71	1.21	1.81	2.98	Los Angeles	Services
0.02	0.35	0.00	0.12	0.14	0.13	Orange	Services
0.00	0.00	0.00	0.00	0.00	0.00	Riverside	Services
0.00	0.00	0.00	0.00	0.00	0.00	San Bernardino	Services
0.00	0.02	0.01	0.01	0.01	0.00	Ventura	Services
99.73	99.63	95.27	98.67	98.04	96.89	Rest of US	Services

Imperial	Los.Angeles	Orange	Riverside	San.Bernardino	Ventura	County	Industry
0.00	0.18	0.03	0.15	0.02	0.02	Imperial	Public administration
0.76	0.00	2.22	2.73	0.66	1.34	Los Angeles	Public administration
0.02	0.32	0.00	0.08	0.01	0.02	Orange	Public administration
0.13	0.57	0.11	0.00	0.11	0.05	Riverside	Public administration
0.05	0.34	0.05	0.27	0.00	0.03	San Bernardino	Public administration
0.01	0.18	0.02	0.03	0.01	0.00	Ventura	Public administration
99.02	98.42	97.56	96.74	99.19	98.56	Rest of US	Public administration

5. The final step is to determine the cost share of an intermediate input from outside the county. This includes the other counties and the rest of the US. **See appendix for example.**

$$a_{jc'}^{ic} = \text{domestictrade}^{ic} \frac{a_{jc}^{ic}}{(\sum_l a_{lc}^{ic})} t_{jc'}^{ic}$$

$\text{domestictrade}^{ic}$  for industry  $i$  in county  $c$  from SAM table

$P_{jc'}^{ic}$  = industry  $i$  in county  $c$  cost share of intermediate input from industry  $j$  in county  $c'$

$P_{jc}^{ic}$  = industry  $i$  in county  $c$  cost share of intermediate input from industry  $j$  in county  $c$  from SAM table.

$t_{jc'}^{ic}$  = proportion of imports coming into county  $c$  from trade flow tables

### 3. Rent and Interest

The SAMs give industry cost share for **'Other Property Income'**. However, **'Other property Income'** includes payments by industry toward rent, interest, dividends, royalties and profit. Our interest focuses on industry payments toward rents and interest. This means we need to find how much of **'Other Property Income'** is composed of rents and interest.

In SAM, **'Other Property Income'** makes payments to different institutions. These payments can be divided into the following categories.

Other Property Income	Households	Rent with Capital Consumption Adj
Other Property Income	Households	Business Transfers
Other Property Income	Households	Interest (Net)
Other Property Income	Federal Government Non-Defense	Surplus of Govt Enterprises
Other Property Income	State/Local Govt Non-Education	Surplus of Govt Enterprises
Other Property Income	Enterprises (Corporations)	Corporate Profits with IVA and CCA
Other Property Income	Capital	Consumption of fixed capital
Other Property Income	Capital	NIPA Statistical Discrepancy
Other Property Income	Foreign Trade	Transfers

Below we show the share of rent and interest when we consider **'Other Property Income'** with only these two categories.

<b>Rent = 19.33%</b>
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<b>Interest = 80.66%</b>
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## 4. Total Industry Production and Employment

The calibration of RELU's production sector is done at the model zone level. This means we must have a procedure to map the county level cost shares, output and employment data to the model zone level.

We assume that the cost shares are the same between the model zone level and county level.

We assume that the industry output at the model zone level is proportional to the county output level, where the proportion is equal to the model zone's share of county employment.

The employment data at the model zone level is found from the CTPP2 data set. The CTPP2 data set gives employment at place of work by industry and earnings. We aggregate twelve earning categories in CTPP2 into four categories shown in the table below.

CTPP2 Earnings Categories
1 Total, Worker earnings in 1999 (12)
2 Less than \$5,000 or loss
3 \$5,000 to \$9,999
4 \$10,000 to \$14,999
5 \$15,000 to \$19,999
6 \$20,000 to \$24,999
7 \$25,000 to \$29,999
8 \$30,000 to \$34,999
9 \$35,000 to \$49,999
10 \$50,000 to \$74,999
11 \$75,000 or more
12 No earnings in 1999

We also aggregate the CTPP2 industries to match the RELU industries. However, in CTPP2, 'Transportation, **warehousing and utilities**' is one industry, whereas in RELU, they are split between '**Transportation and Warehousing**' and '**Utilities**'. To fix the problem we find from IMPLAN the

employment ratio of the **Transportation** and **Utility** industries for each county and assume that the same ratio holds for all the model zones from the same county.

<b>Labor by Income (\$)</b>
0-25,000
25,000-50,000
50,000-75,000
75,000 and above

The other problem is that the CTPP2 employment data is given for census tracts, while the model zones are aggregation of census tracts, with some census tracts split between two or more model zones. For census tracts that were split between model zones, we split the census tract employment between model zones to match the area split of the census tracts between the model zones.

<b>CTPP2 Industry Categories</b>
1 Total, Industry (15)
2 Agriculture, forestry, fishing and hunting, and mining
3 Construction
4 Manufacturing
5 Wholesale trade
6 Retail trade
7 Transportation and warehousing, and utilities
8 Information
9 Finance, insurance, real estate and rental and leasing
10 Professional, scientific, management, administrative, and waste management services
11 Educational, health and social services
12 Arts, entertainment, recreation, accommodation and food services
13 Other services (except public administration)
14 Public administration
15 Armed forces

## 5. APPENDIX

Write the different data sets here.

Manufacturing	Agriculture, forestry, fishing, mining-LosAngeles	0.120260267
Manufacturing	Construction-LosAngeles	0.60040737
Manufacturing	Manufacturing-LosAngeles	20.93114242
Manufacturing	Transportation, communications, warehousing-LosAngeles	2.308852151
Manufacturing	Electric, gas, sanitary services-LosAngeles	1.67683692
Manufacturing	Wholesale trade-LosAngeles	6.862024789
Manufacturing	Retail trade-LosAngeles	0.265908204
Manufacturing	Finance, insurance, real estate-LosAngeles	1.518686313
Manufacturing	Others-LosAngeles	0.501311132
Manufacturing	Services-LosAngeles	6.426943238
Manufacturing	Public administration-LosAngeles	0.164092879
Manufacturing	Employee Compensation-LosAngeles	22.55124948
Manufacturing	Proprietary Income-LosAngeles	1.388214675
Manufacturing	Other Property Income-LosAngeles	8.759326901
Manufacturing	Indirect Business Taxes-LosAngeles	1.095334225
Manufacturing	Foreign Trade-LosAngeles	4.256843357
Manufacturing	Agriculture, forestry, fishing, mining-RestofUS	0.071681945
Manufacturing	Construction-Orange	0.123041509
Manufacturing	Construction-RestofUS	0.061666701
Manufacturing	Construction-Riverside	0.120720783
Manufacturing	Construction-SanBernardino	0.032163346
Manufacturing	Construction-Ventura	0.02028453
Manufacturing	Electric, gas, sanitary services-Imperial	0.069933939
Manufacturing	Electric, gas, sanitary services-Orange	4.03E-16
Manufacturing	Electric, gas, sanitary services-RestofUS	0.668244088
Manufacturing	Electric, gas, sanitary services-Riverside	6.08E-17
Manufacturing	Electric, gas, sanitary services-SanBernardino	0.261311948
Manufacturing	Finance, insurance, real estate-Orange	0.002203843
Manufacturing	Finance, insurance, real estate-RestofUS	0.90273395
Manufacturing	Finance, insurance, real estate-Riverside	9.60E-05
Manufacturing	Finance, insurance, real estate-SanBernardino	8.66E-05
Manufacturing	Finance, insurance, real estate-Ventura	0.000102749
Manufacturing	Manufacturing-Imperial	0.047702928
Manufacturing	Manufacturing-Orange	2.30957414
Manufacturing	Manufacturing-RestofUS	7.606492096
Manufacturing	Manufacturing-Riverside	0.835351518
Manufacturing	Manufacturing-SanBernardino	1.192143242
Manufacturing	Manufacturing-Ventura	0.484884931
Manufacturing	Others-Imperial	1.55E-08
Manufacturing	Others-Orange	6.00E-07
Manufacturing	Others-RestofUS	0.298808657
Manufacturing	Others-Riverside	2.29E-07
Manufacturing	Others-SanBernardino	2.31E-07
Manufacturing	Others-Ventura	1.56E-07
Manufacturing	Public administration-Imperial	0.000174165
Manufacturing	Public administration-Orange	0.000309971
Manufacturing	Public administration-RestofUS	0.09625899
Manufacturing	Public administration-Riverside	0.000554522
Manufacturing	Public administration-SanBernardino	0.000335479
Manufacturing	Public administration-Ventura	0.000175542
Manufacturing	Retail trade-Imperial	7.71E-08
Manufacturing	Retail trade-Orange	1.04E-05
Manufacturing	Retail trade-RestofUS	0.158481832
Manufacturing	Retail trade-Riverside	7.66E-07
Manufacturing	Retail trade-SanBernardino	2.33E-06
Manufacturing	Retail trade-Ventura	1.00E-06
Manufacturing	Services-Orange	0.013247961
Manufacturing	Services-RestofUS	3.816701947
Manufacturing	Services-Ventura	0.000873031
Manufacturing	Transportation, communications, warehousing-Imperial	2.47E-05
Manufacturing	Transportation, communications, warehousing-Orange	0.004756887
Manufacturing	Transportation, communications, warehousing-RestofUS	1.368525952
Manufacturing	Transportation, communications, warehousing-SanBernardino	0.002074463
Manufacturing	Transportation, communications, warehousing-Ventura	0.000824878



	IMPLAN Sector Name	'82 BEA Commodity	1987 Standard Industrial Classification	
1	DAIRY FARM PRODUCTS	( 1.0100)	0241	Also : part of 0191, 0259, 0291
2	POULTRY AND EGGS	( 1.0200)	0251 0252 0253	Also : part of 0191, 0219, 0259, 0291
3	RANCH FED CATTLE	( 1.0311)		Part of 0191, 0212, 0219, 0259, 0291
4	RANGE FED CATTLE	( pt 1.0301)		Part of 0191, 0212, 0219, 0259, 0291
5	CATTLE FEEDLOTS	( pt 1.0301)	0211	Also : part of 0191, 0219, 0259, 0291
6	SHEEP, LAMBS AND GOATS	( pt 1.0301)	0214	Also : part of 0191, 0219, 0259, 0291
7	HOGS, PIGS AND SWINE	( pt 1.0301)	0213	Also : part of 0191, 0219, 0259, 0291
8	OTHER MEAT ANIMAL PRODUCTS	( pt 1.0301)		Part of 0191, 0212, 0219, 0259, 0291
9	MISCELLANEOUS LIVESTOCK	( 1.0302)	0271 0272	Also : part of 0191 0219 0259 0273 0279 0291
10	COTTON	( 2.0100)	0131	Also : part of 0191, 0219, 0259, 0291
11	FOOD GRAINS	( 2.0201)	0111 0112	Also : part of 0191, 0219, 0259, 0291
12	FEED GRAINS	( pt 2.0202)	0115	Also : part of 0139, 0191, 0219, 0259, 0291
13	HAY AND PASTURE	( pt 2.0202)		Part of 0139, 0191, 0219, 0259, 0291
14	GRASS SEEDS	( 2.0203)		Part of 0139, 0191, 0219, 0259, 0291
15	TOBACCO	( 2.0300)	0132	Also : part of 0191, 0219, 0259, 0291
16	FRUITS	( 2.0401)	0171 0172 0174 0175	Also : part of 0179, 0191, 0219, 0259, 0291
17	TREE NUTS	( 2.0402)		Part of 0173, 0179, 0191, 0219, 0259, 0291
18	VEGETABLES	( 2.0501)	0134 0161	Also : part of 0119, 0139, 0191, 0219, 0259, 0291
19	SUGAR CROPS	( 2.0502)	0133	Also : part of 0191, 0219, 0259, 0291
20	MISCELLANEOUS CROPS	( 2.0503)		Part of 0119, 0139, 0191, 0219, 0259, 0291
21	OIL BEARING CROPS	( 2.0600)	0116	Also : part of 0119, 0139, 0173, 0219, 0259, 0291
22	FOREST PRODUCTS	( 2.0701)		

23	GREENHOUSE AND NURSERY PRODUCTS	( 2.0702)	0182	Also : part of 0181, 0191, 0219, 0259, 0291
24	FORESTRY PRODUCTS	( 3.0001)	0810, 0830, 0970	
25	COMMERCIAL FISHING	( 3.0002)	0910	
26	AGRICULTURAL, FORESTRY, FISHERY SERVICES	( 4.0001)	0710 0720 0750 0760 0254 0850 0920	Also : part of 0279
27	LANDSCAPE AND HORTICULTURAL SERVICES	( 4.0002)	0780	
28	IRON ORES	( pt 5.0000)	1010	
29	COPPER ORES	( 6.0100)	1020	
30	LEAD AND ZINC ORES	( pt 6.0200)	1030	
	IMPLAN Sector Name	'82 BEA Commodity	1987 Standard Industrial Classification	
31	GOLD ORES	( pt 6.0200)	1041	
32	SILVER ORES	( pt 6.0200)	1044	
33	FERROALLOY ORES, EXCEPT VANADIUM	( pt 5.0000)	1060	
34	METAL MINING SERVICES	( pt 6.0200)	1080	
35	URANIUM-RADIUM-VANADIUM ORES	( pt 6.0200)	1094	
36	METAL ORES, NOT ELSEWHERE CLASSIFIED	( pt 6.0200)	1099	
37	COAL MINING	(7.0000)	1200	
38	NATURAL GAS & CRUDE PETROLEUM	( pt 8.0000)	1310	
39	NATURAL GAS LIQUIDS	( pt 8.0000)	1320	
40	DIMENSION STONE	( pt 9.0001)	1410 1420	
41	SAND AND GRAVEL	( pt 9.0002)	1440	
42	CLAY, CERAMIC, REFRACTORY MINERALS, N.E.C.	( pt 9.0003)	1450	
43	POTASH, SODA, AND BORATE MINERALS	(10.0300)	1474	
44	PHOSPHATE ROCK	(10.0400)	1475	
45	CHEMICAL, FERTILIZER MINERAL MINING, N.E.C.	(10.0700)	1479	
46	NONMETALLIC MINERALS (EXCEPT FUELS) SERVICE	( pt 9.0004)	1480	
47	MISC. NONMETALLIC MINERALS, N.E.C.	( pt 9.0004)	1490	
48	██████████	██████		██████
49	██████████	██████		██████
50	██████████	██████		██████
51	██████████	██████		██████
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56				
57	MAINTENANCE AND REPAIR OIL AND GAS WELLS	(12.0215)	1380	
58	MEAT PACKING PLANTS	(14.0101)	2011	
59	SAUSAGES AND OTHER PREPARED MEATS	(14.0102)	2013	
60	POULTRY PROCESSING	(14.0103,14.0104)	2015	
61	CREAMERY BUTTER	(14.0200)	2021	
62	CHEESE, NATURAL AND PROCESSED	(14.0300)	2022	
63	CONDENSED AND EVAPORATED MILK	(14.0400)	2023	
64	ICE CREAM AND FROZEN DESSERTS	(14.0500)	2024	
65	FLUID MILK	(14.0600)	2026	
66	CANNED SPECIALTIES	(14.0800)	2032	
67	CANNED FRUITS AND VEGETABLES	(14.0900)	2033	
68	DEHYDRATED FOOD PRODUCTS	(14.1000)	2034	
69	PICKLES, SAUCES, AND SALAD DRESSINGS	(14.1100)	2035	
70	FROZEN FRUITS, JUICES AND VEGETABLES	(14.1301)	2037	
71	FROZEN SPECIALTIES	(14.1302)	2038	
72	FLOUR AND OTHER GRAIN MILL PRODUCTS	(14.1401)	2041	
73	CEREAL PREPARATIONS	(14.1402)	2043	
74	RICE MILLING	(14.1600)	2044	
75	BLENDED AND PREPARED FLOUR	(14.1403)	2045	
76	WET CORN MILLING	(14.1700)	2046	
77	DOG, CAT, AND OTHER PET FOOD	(14.1501)	2047	
78	PREPARED FEEDS, N.E.C	(14.1502)	2048	
79	BREAD, CAKE, AND RELATED PRODUCTS	(14.1801)	2051, 2053	
80	COOKIES AND CRACKERS	(14.1802)	2052	
81	SUGAR	(14.1900)	2061 2062 2063	
82	CONFECTIONERY PRODUCTS	(14.2001)	2064	
83	CHOCOLATE AND COCOA PRODUCTS	(14.2002)	2066	
84	CHEWING GUM	(14.2003)	2067	
85	SALTED AND ROASTED NUTS & SEEDS	(pt 14.2001,pt 14.1000,pt 14.3200)	2068	

86	COTTONSEED OIL MILLS	(14.2400)	2074	
87	SOYBEAN OIL MILLS	(14.2500)	2075	
88	VEGETABLE OIL MILLS, N.E.C	(14.2600)	2076	
89	ANIMAL AND MARINE FATS AND OILS	(14.2700)	2077	
90	SHORTENING AND COOKING OILS	(14.2900)	2079	
91	MALT BEVERAGES	(14.2101)	2082	
92	MALT	(14.2102)	2083	
93	WINES, BRANDY, AND BRANDY SPIRITS	(14.2103)	2084	
94	DISTILLED LIQUOR, EXCEPT BRANDY	(14.2104)	2085	
95	BOTTLED AND CANNED SOFT DRINKS & WATER	(14.2200)	2086	
	IMPLAN Sector Name	'82 BEA Commodity	1987 Standard Industrial Classification	
96	FLAVORING EXTRACTS AND SYRUPS, N.E.C	(14.2300)	2087	
97	CANNED AND CURED SEA FOODS	(14.0700)	2091	
98	PREPARED FRESH OR FROZEN FISH OR SEAFOOD	(14.1200)	2092	
99	ROASTED COFFEE	(14.2800)	2095	
100	POTATO CHIPS & SIMILAR SNACKS	(pt 14.3200)	2096	
101	MANUFACTURED ICE	(14.3000)	2097	
102	MACARONI AND SPAGHETTI	(14.3100)	2098	
103	FOOD PREPARATIONS, N.E.C	(pt 14.3200)	2099	
104	CIGARETTES	(15.0101)	2110	
105	CIGARS	(15.0102)	2120	
106	CHEWING AND SMOKING TOBACCO	(15.0103)	2130	
107	TOBACCO STEMMING AND REDRYING	(15.0200)	2140	
108	BROADWOVEN FABRIC MILLS AND FINISHING	(16.0100)	2210 2220 2230 2261 2262	
109	NARROW FABRIC MILLS	(16.0200)	2240	
110	WOMENS HOSIERY, EXCEPT SOCKS	(18.0101)	2251	
111	HOSIERY, N.E.C	(18.0102)	2252	
112	KNIT OUTERWEAR MILLS	(18.0201)	2253	
113	KNIT UNDERWEAR MILLS	(18.0202)	2254	
114	KNIT FABRIC MILLS	(18.0300)	2257 2258	
115	KNITTING MILLS, N.E.C	(18.0203)	2259	
116	YARN MILLS AND FINISHING OF TEXTILES NEC	(16.0300)	2269 2281 2282	

117	CARPETS AND RUGS	(17.0100)	2270	
118	THREAD MILLS	(16.0400)	2284	
119	COATED FABRICS, NOT RUBBERIZED	(17.0600)	2295	
120	TIRE CORD AND FABRIC	(17.0700)	2296	
121	NONWOVEN FABRICS	(17.1001)	2297	
122	CORDAGE AND TWINE	(17.0900)	2298	
123	TEXTILE GOODS, N.E.C	(17.1002)	2299	
124	APPAREL MADE FROM PURCHASED MATERIALS	(18.0400)	2310 2320 2330 2340 2350 2360 2370 2380	
125	CURTAINS AND DRAPERIES	(19.0100)	2391	
126	HOUSEFURNISHINGS, N.E.C	(19.0200)	2392	
127	TEXTILE BAGS	(19.0301)	2393	
128	CANVAS PRODUCTS	(19.0302)	2394	
129	PLEATING AND STITCHING	(19.0303)	2395	
130	AUTOMOTIVE AND APPAREL TRIMMINGS	(19.0304)	2396	
131	SCHIFFI MACHINE EMBROIDERIES	(19.0305)	2397	
132	FABRICATED TEXTILE PRODUCTS, N.E.C	(19.0306)	2399	
133	LOGGING CAMPS AND LOGGING CONTRACTORS	(20.0100)	2410	
134	SAWMILLS AND PLANING MILLS, GENERAL	(20.0200)	2421	
135	HARDWOOD DIMENSION AND FLOORING MILLS	(20.0300)	2426	
136	SPECIAL PRODUCT SAWMILLS, N.E.C	(20.0400)	2429	
137	MILLWORK	(20.0501)	2431	
138	WOOD KITCHEN CABINETS	(20.0502)	2434	
139	VENEER AND PLYWOOD	(20.0600)	2435 2436	
140	STRUCTURAL WOOD MEMBERS, N.E.C	(20.0701)	2439	
141	WOOD CONTAINERS	(21.0000)	2441 2449	
142	WOOD PALLETS AND SKIDS	(20.0901)	2448	
143	MOBILE HOMES	(61.0602)	2451	
144	PREFABRICATED WOOD BUILDINGS	(20.0702)	2452	
145	WOOD PRESERVING	(20.0800)	2491	
146	RECONSTITUTED WOOD PRODUCTS	(20.0902)	2493	
147	WOOD PRODUCTS, N.E.C	(20.0903)	2499	
148	WOOD HOUSEHOLD FURNITURE	(22.0101)	2511	
149	UPHOLSTERED HOUSEHOLD FURNITURE	(22.0200)	2512	

150	METAL HOUSEHOLD FURNITURE	(22.0300)	2514	
151	MATTRESSES AND BEDSPRINGS	(22.0400)	2515	
152	WOOD TV AND RADIO CABINETS	(22.0103)	2517	
153	HOUSEHOLD FURNITURE, N.E.C	(22.0102)	2519	
154	WOOD OFFICE FURNITURE	(23.0100)	2521	
155	METAL OFFICE FURNITURE	(23.0200)	2522	
156	PUBLIC BUILDING FURNITURE	(23.0300)	2530	
157	WOOD PARTITIONS AND FIXTURES	(23.0400)	2541	
158	METAL PARTITIONS AND FIXTURES	(23.0500)	2542	
159	BLINDS, SHADES, AND DRAPERY HARDWARE	(23.0600)	2591	
	IMPLAN Sector Name	'82 BEA Commodity	1987 Standard Industrial Classification	
160	FURNITURE AND FIXTURES, N.E.C	(23.0700)	2599	
161	PULP MILLS	(24.0100)	2610	
162	PAPER MILLS, EXCEPT BUILDING PAPER	(24.0200)	2620	
163	PAPERBOARD MILLS	(24.0300,24.0602)	2630	
164	PAPERBOARD CONTAINERS AND BOXES	(25.0000)	2650	
165	PAPER COATED & LAMINATED PACKAGING	(pt 24.0701)	2671	
166	PAPER COATED & LAMINATED NEC	(pt 24.0701)	2672	
167	BAGS, PLASTIC	(pt 24.0702)	2673	
168	BAGS, PAPER	(pt 24.0702)	2674	
169	DIE-CUT PAPER AND BOARD	(24.0703)	2675	
170	SANITARY PAPER PRODUCTS	(24.0500)	2676	
171	ENVELOPES	(24.0400)	2677	
172	STATIONERY PRODUCTS	(24.0705)	2678	
173	CONVERTED PAPER PRODUCTS, N.E.C	(24.0704,24.0706)	2679	
174	NEWSPAPERS	(26.0100)	2710	
175	PERIODICALS	(26.0200)	2720	
176	BOOK PUBLISHING	(26.0301)	2731	
177	BOOK PRINTING	(26.0302)	2732	
178	MISCELLANEOUS PUBLISHING	(26.0400)	2740	
179	COMMERCIAL PRINTING	(26.0501)	2750	
180	MANIFOLD BUSINESS FORMS	(26.0601)	2760	
181	GREETING CARD PUBLISHING	(26.0700)	2770	
182	BLANKBOOKS AND LOOSELEAF BINDERS	(26.0602)	2782	

183	BOOKBINDING & RELATED	(26.0802)	2789	
184	TYPESETTING	(26.0803)	2791	
185	PLATE MAKING	(26.0801,26.0801,26.0804)	2796	
186	ALKALIES & CHLORINE	(27.0101)	2812	
187	INDUSTRIAL GASES	(27.0102)	2813	
188	INORGANIC PIGMENTS	(27.0103)	2816	
189	INORGANIC CHEMICALS NEC.	(27.0104)	2819	
190	CYCLIC CRUDES, INTERM. & INDUS. ORGANIC CHEM.	(27.0105)	2865 2869	
191	PLASTICS MATERIALS AND RESINS	(28.0100)	2821	
192	SYNTHETIC RUBBER	(28.0200)	2822	
193	CELLULOSIC MAN-MADE FIBERS	(28.0300)	2823	
194	ORGANIC FIBERS, NONCELLULOSIC	(28.0400)	2824	
195	DRUGS	(29.0100)	2830	
196	SOAP AND OTHER DETERGENTS	(29.0201)	2841	
197	POLISHES AND SANITATION GOODS	(29.0202)	2842	
198	SURFACE ACTIVE AGENTS	(29.0203)	2843	
199	TOILET PREPARATIONS	(29.0300)	2844	
200	PAINTS AND ALLIED PRODUCTS	(30.0000)	2850	
201	GUM AND WOOD CHEMICALS	(27.0401)	2861	
202	NITROGENOUS AND PHOSPHATIC FERTILIZERS	(27.0201)	2873 2874	
203	FERTILIZERS, MIXING ONLY	(27.0202)	2875	
204	AGRICULTURAL CHEMICALS, N.E.C	(27.0300)	2879	
205	ADHESIVES AND SEALANTS	(27.0402)	2891	
206	EXPLOSIVES	(27.0403)	2892	
207	PRINTING INK	(27.0404)	2893	
208	CARBON BLACK	(27.0405)	2895	
209	CHEMICAL PREPARATIONS, N.E.C	(27.0406)	2899	
210	PETROLEUM REFINING	(31.0101)	2910	
211	PAVING MIXTURES AND BLOCKS	(31.0200)	2951	
212	ASPHALT FELTS AND COATINGS	(31.0300)	2952	
213	LUBRICATING OILS AND GREASES	(31.0102)	2992	
214	PETROLEUM AND COAL PRODUCTS, N.E.C.	(31.0103)	2999	
215	TIRES AND INNER TUBES	(32.0100)	3010	
216	RUBBER AND PLASTICS FOOTWEAR	(32.0200)	3020	

217	RUBBER AND PLASTICS HOSE AND BELTING	(32.0500)	3052	
218	GASKETS, PACKING AND SEALING DEVICES	(36.1800)	3053	
219	FABRICATED RUBBER PRODUCTS, N.E.C	(32.0301,32.0302)	3060	
220	MISCELLANEOUS PLASTICS PRODUCTS	(32.0400)	3080	
221	LEATHER TANNING AND FINISHING	(33.0001)	3110	
222	FOOTWEAR CUT STOCK	(34.0100)	3130	
223	HOUSE SLIPPERS	(34.0202)	3142	
224	SHOES, EXCEPT RUBBER	(34.0201)	3143 3144 3149	
225	LEATHER GLOVES AND MITTENS	(34.0301)	3150	
	IMPLAN Sector Name	'82 BEA Commodity	1987 Standard Industrial Classification	
226	LUGGAGE	(34.0302)	3160	
227	WOMENS HANDBAGS AND PURSES	(34.0303)	3171	
228	PERSONAL LEATHER GOODS	(34.0304)	3172	
229	LEATHER GOODS, N.E.C	(34.0305)	3190	
230	GLASS AND GLASS PRODUCTS, EXC CONTAINERS	(35.0100)	3210 3229 3230	
231	GLASS CONTAINERS	(35.0200)	3221	
232	CEMENT, HYDRAULIC	(36.0100)	3240	
233	BRICK AND STRUCTURAL CLAY TILE	(36.0200)	3251	
234	CERAMIC WALL AND FLOOR TILE	(36.0300)	3253	
235	CLAY REFRACTORIES	(36.0400)	3255	
236	STRUCTURAL CLAY PRODUCTS, N.E.C	(36.0500)	3259	
237	VITREOUS PLUMBING FIXTURES	(36.0600)	3261	
238	VITREOUS CHINA FOOD UTENSILS	(36.0701)	3262	
239	FINE EARTHENWARE FOOD UTENSILS	(36.0702)	3263	
240	PORCELAIN ELECTRICAL SUPPLIES	(36.0800)	3264	
241	POTTERY PRODUCTS, N.E.C	(36.0900)	3269	
242	CONCRETE BLOCK AND BRICK	(36.1000)	3271	
243	CONCRETE PRODUCTS, N.E.C	(36.1100)	3272	
244	READY-MIXED CONCRETE	(36.1200)	3273	
245	LIME	(36.1300)	3274	
246	GYPSUM PRODUCTS	(36.1400)	3275	
247	CUT STONE AND STONE PRODUCTS	(36.1500)	3280	
248	ABRASIVE PRODUCTS	(36.1600)	3291	
249	ASBESTOS PRODUCTS	(36.1700)	3292	



250	MINERALS, GROUND OR TREATED	(36.1900)	3295	
251	MINERAL WOOL	(36.2000)	3296	
252	NONCLAY REFRACTORIES	(36.2100)	3297	
253	NONMETALLIC MINERAL PRODUCTS, N.E.C	(36.2200)	3299	
254	BLAST FURNACES AND STEEL MILLS	(37.0101)	3312	
255	ELECTROMETALLURGICAL PRODUCTS	(37.0102)	3313	
256	STEEL WIRE AND RELATED PRODUCTS	(37.0103)	3315	
257	COLD FINISHING OF STEEL SHAPES	(37.0104)	3316	
258	STEEL PIPE AND TUBES	(37.0105)	3317	
259	IRON AND STEEL FOUNDRIES	(37.0200)	3320	
260	PRIMARY COPPER	(38.0100)	3331	
261	PRIMARY ALUMINUM	(38.0400)	3334	Also part of 2819
262	PRIMARY NONFERROUS METALS, N.E.C	(38.0200,38.0300,38.0500)	3339	
263	SECONDARY NONFERROUS METALS	(38.0600)	3340	
264	COPPER ROLLING AND DRAWING	(38.0700)	3351	
265	ALUMINUM ROLLING AND DRAWING	(38.0800)	3353 3354 3355	
266	NONFERROUS ROLLING AND DRAWING, N.E.C	(38.0900)	3356	
267	NONFERROUS WIRE DRAWING AND INSULATING	(38.1000)	3357	
268	ALUMINUM FOUNDRIES	(38.1100)	3363, 3365	
269	BRASS, BRONZE, AND COPPER FOUNDRIES	(38.1200)	3364, 3366	
270	NONFERROUS CASTINGS, N.E.C.	(38.1300)	3369	
271	METAL HEAT TREATING	(37.0401)	3398	
272	PRIMARY METAL PRODUCTS, N.E.C	(37.0402)	3399	
273	METAL CANS	(39.0100)	3411	
274	METAL BARRELS, DRUMS AND PAILS	(39.0200)	3412	
275	CUTLERY	(42.0100)	3421	
276	HAND AND EDGE TOOLS, N.E.C.	(42.0201)	3423	
277	HAND SAWS AND SAW BLADES	(42.0202)	3425	
278	HARDWARE, N.E.C.	(42.0300)	3429	
279	METAL SANITARY WARE	(40.0100)	3431	
280	PLUMBING FIXTURE FITTINGS AND TRIM	(40.0200)	3432	
281	HEATING EQUIPMENT, EXCEPT ELECTRIC	(40.0300)	3433	
282	FABRICATED STRUCTURAL METAL	(40.0400)	3441	
283	METAL DOORS, SASH, AND TRIM	(40.0500)	3442	

284	FABRICATED PLATE WORK (BOILER SHOPS)	(40.0600)	3443	
285	SHEET METAL WORK	(40.0700)	3444	
286	ARCHITECTURAL METAL WORK	(40.0800)	3446	
287	PREFABRICATED METAL BUILDINGS	(40.0901)	3448	
288	MISCELLANEOUS METAL WORK	(40.0902)	3449	
289	SCREW MACHINE PRODUCTS AND BOLTS, ETC	(41.0100)	3450	
290	IRON AND STEEL FORGINGS	(37.0300)	3462	
291	NONFERROUS FORGINGS	(38.1400)	3463	
	IMPLAN Sector Name	'82 BEA Commodity	1987 Standard Industrial Classification	
292	AUTOMOTIVE STAMPINGS	(41.0201)	3465	
293	CROWNS AND CLOSURES	(41.0202)	3466	
294	METAL STAMPINGS, N.E.C.	(41.0203)	3469	
295	PLATING AND POLISHING	(42.0401)	3471	
296	METAL COATING AND ALLIED SERVICES	(42.0402)	3479	
297	SMALL ARMS AMMUNITION	(13.0600)	3482	
298	AMMUNITION, EXCEPT FOR SMALL ARMS, N.E.C	(13.0200)	3483	
299	SMALL ARMS	(13.0500)	3484	
300	OTHER ORDNANCE AND ACCESSORIES	(13.0700)	3489	
301	INDUSTRIAL AND FLUID VALVES	(pt 42.0800)	3491, 3492	
302	STEEL SPRINGS, EXCEPT WIRE	(42.0700)	3493	
303	PIPE, VALVES, AND PIPE FITTINGS	(pt 42.0800)	3494 3498	
304	MISCELLANEOUS FABRICATED WIRE PRODUCTS	(42.0500)	3495 3496	
305	METAL FOIL AND LEAF	(42.1000)	3497	
306	FABRICATED METAL PRODUCTS, N.E.C.	(42.1100)	3499	
307	STEAM ENGINES AND TURBINES	(43.0100)	3511	
308	INTERNAL COMBUSTION ENGINES, N.E.C.	(43.0200)	3519	
309	FARM MACHINERY AND EQUIPMENT	(44.0001)	3523	
310	LAWN AND GARDEN EQUIPMENT	(44.0002)	3524	
311	CONSTRUCTION MACHINERY AND EQUIPMENT	(45.0100)	3531	
312	MINING MACHINERY, EXCEPT OIL FIELD	(45.0200)	3532	
313	OIL FIELD MACHINERY	(45.0300)	3533	
314	ELEVATORS AND MOVING STAIRWAYS	(46.0100)	3534	

315	CONVEYORS AND CONVEYING EQUIPMENT	(46.0200)	3535	
316	HOISTS, CRANES, AND MONORAILS	(46.0300)	3536	
317	INDUSTRIAL TRUCKS AND TRACTORS	(46.0400)	3537	
318	MACHINE TOOLS, METAL CUTTING TYPES	(47.0100)	3541	
319	MACHINE TOOLS, METAL FORMING TYPES	(47.0200)	3542	
320	INDUSTRIAL PATTERNS	(49.0400)	3543	
321	SPECIAL DIES AND TOOLS AND ACCESSORIES	(47.0300)	3544 3545	
322	POWER DRIVEN HAND TOOLS	(47.0401)	3546	
323	ROLLING MILL MACHINERY	(47.0402)	3547	
324	WELDING APPARATUS	(53.0600)	3548	
325	METALWORKING MACHINERY, N.E.C.	(47.0403)	3549	
326	TEXTILE MACHINERY	(48.0200)	3552	
327	WOODWORKING MACHINERY	(48.0300)	3553	
328	PAPER INDUSTRIES MACHINERY	(48.0400)	3554	
329	PRINTING TRADES MACHINERY	(48.0500)	3555	
330	FOOD PRODUCTS MACHINERY	(pt 48.0100)	3556	
331	SPECIAL INDUSTRY MACHINERY NEC	(48.0600,pt 54.0600)	3559	
332	PUMPS AND COMPRESSORS	(pt 49.0100)	3561 3563	
333	BALL AND ROLLER BEARINGS	(49.0200)	3562	
334	BLOWERS AND FANS	(49.0300)	3564	
335	PACKAGING MACHINERY	(pt 48.0100,pt 49.0700)	3565	
336	POWER TRANSMISSION EQUIPMENT	(49.0500)	3566 3568	
337	INDUSTRIAL FURNACES AND OVENS	(49.0600)	3567	
338	GENERAL INDUSTRIAL MACHINERY, N.E.C.	(pt 49.0700)	3569	
339	ELECTRONIC COMPUTERS	(pt 51.0101)	3571	
340	COMPUTER STORAGE DEVICES	(pt 51.0101)	3572	
341	COMPUTER TERMINALS	(pt 51.0101)	3575	
342	COMPUTER PERIPHERAL EQUIPMENT, NEC.	(pt 51.0101)	3577	
343	CALCULATING AND ACCOUNTING MACHINES	(51.0102)	3578	
344	TYPEWRITERS AND OFFICE MACHINES, N.E.C.	(51.0400)	3579	
345	AUTOMATIC MERCHANDISING MACHINES	(52.0100)	3581	
346	COMMERCIAL LAUNDRY EQUIPMENT	(52.0200)	3582	
347	REFRIGERATION AND HEATING EQUIPMENT	(52.0300)	3585	

348	MEASURING AND DISPENSING PUMPS	(52.0400)	3586	
349	SERVICE INDUSTRY MACHINES, N.E.C.	(52.0500)	3589	
350	CARBURETORS, PISTONS, RINGS, VALVES	(50.0001)	3592	
351	FLUID POWER CYLINDERS & ACTUATORS	(50.0003)	3593	
352	FLUID POWER PUMPS & MOTORS	(pt 49.0100)	3594	
353	SCALES AND BALANCES	(51.0300)	3596	
354	INDUSTRIAL MACHINES NEC.	(pt 50.0002)	3599	
355	TRANSFORMERS	(53.0200)	3612	
356	SWITCHGEAR AND SWITCHBOARD APPARATUS	(53.0300)	3613	
357	MOTORS AND GENERATORS	(53.0400)	3621	
358	CARBON AND GRAPHITE PRODUCTS	(53.0700)	3624	
	IMPLAN Sector Name	'82 BEA Commodity	1987 Standard Industrial Classification	
359	RELAYS & INDUSTRIAL CONTROLS	(53.0500)	3625	
360	ELECTRICAL INDUSTRIAL APPARATUS, N.E.C.	(53.0800)	3629	
361	HOUSEHOLD COOKING EQUIPMENT	(54.0100)	3631	
362	HOUSEHOLD REFRIGERATORS AND FREEZERS	(54.0200)	3632	
363	HOUSEHOLD LAUNDRY EQUIPMENT	(54.0300)	3633	
364	ELECTRIC HOUSEWARES AND FANS	(54.0400)	3634	
365	HOUSEHOLD VACUUM CLEANERS	(54.0500)	3635	
366	HOUSEHOLD APPLIANCES, N.E.C.	(pt 54.0600, 54.0700)	3639	
367	ELECTRIC LAMPS	(55.0100)	3641	
368	WIRING DEVICES	(55.0300)	3643 3644	
369	LIGHTING FIXTURES AND EQUIPMENT	(55.0200)	3645 3646 3647 3648	
370	RADIO AND TV RECEIVING SETS	(56.0100)	3651	
371	PHONOGRAPH RECORDS AND TAPE	(56.0200)	3652	
372	TELEPHONE AND TELEGRAPH APPARATUS	(56.0300)	3661	
373	RADIO AND TV COMMUNICATION EQUIPMENT	(pt 56.0400)	3663	
374	COMMUNICATIONS EQUIPMENT NEC	(pt 56.0400)	3669	
375	ELECTRON TUBES	(57.0100)	3671	
376	PRINTED CIRCUIT BOARDS	(pt 57.0300)	3672	
377	SEMICONDUCTORS AND RELATED DEVICES	(57.0200)	3674	
378	ELECTRONIC COMPONENTS, N.E.C.	(pt 57.0300)	3675 3676 3677 3678 3679	

379	STORAGE BATTERIES	(58.0100)	3691
380	PRIMARY BATTERIES, DRY AND WET	(58.0200)	3692
381	ENGINE ELECTRICAL EQUIPMENT	(58.0400)	3694
382	MAGNETIC & OPTICAL RECORDING MEDIA	(pt 51.0101,pt 57.0300)	3695
383	ELECTRICAL EQUIPMENT, N.E.C.	(58.0500)	3699
384	MOTOR VEHICLES	(59.0301)	3711
385	TRUCK AND BUS BODIES	(59.0100)	3713
386	MOTOR VEHICLE PARTS AND ACCESSORIES	(59.0302)	3714
387	TRUCK TRAILERS	(59.0200)	3715
388	MOTOR HOMES	(61.0603)	3716
389	AIRCRAFT	(60.0100)	3721
390	AIRCRAFT AND MISSILE ENGINES AND PARTS	(60.0200)	3724 3764
391	AIRCRAFT AND MISSILE EQUIPMENT, N.E.C.	(60.0400)	3728 3769
392	SHIP BUILDING AND REPAIRING	(61.0100)	3731
393	BOAT BUILDING AND REPAIRING	(61.0200)	3732
394	RAILROAD EQUIPMENT	(61.0300)	3740
395	MOTORCYCLES, BICYCLES, AND PARTS	(61.0500)	3750
396	COMPLETE GUIDED MISSILES	(13.0100)	3761
397	TRAVEL TRAILERS AND CAMPERS	(61.0601)	3792
398	TANKS AND TANK COMPONENTS	(13.0300)	3795
399	TRANSPORTATION EQUIPMENT, N.E.C.	(61.0700)	3799
400	SEARCH & NAVIGATION EQUIPMENT	(pt 62.0100)	3812
401	LABORATORY APPARATUS & FURNITURE	(pt 62.0100)	3821
402	AUTOMATIC TEMPERATURE CONTROLS	(62.0300)	3822
403	MECHANICAL MEASURING DEVICES	(pt 62.0100,62.0202)	3823 3824 3829
404	INSTRUMENTS TO MEASURE ELECTRICITY	(53.0100)	3825
405	ANALYTICAL INSTRUMENTS	(pt 62.0100,pt 63.0100)	3826
406	OPTICAL INSTRUMENTS & LENSES	(pt 63.0100)	3827
407	SURGICAL AND MEDICAL INSTRUMENTS	(62.0400)	3841
408	SURGICAL APPLIANCES AND SUPPLIES	(62.0500)	3842
409	DENTAL EQUIPMENT AND SUPPLIES	(62.0600)	3843
410	X-RAY APPARATUS	(pt 58.0300)	3844
411	ELECTROMEDICAL APPARATUS	(pt 58.0300)	3845
412	OPHTHALMIC GOODS	(63.0200)	3850

413	PHOTOGRAPHIC EQUIPMENT AND SUPPLIES	(63.0300)	3860	
414	WATCHES, CLOCKS, AND PARTS	(62.0700)	3870	
415	JEWELRY, PRECIOUS METAL	(64.0101)	3911	
416	SILVERWARE AND PLATED WARE	(64.0104)	3914	
417	JEWELERS MATERIALS AND LAPIDARY WORK	(64.0102)	3915	
418	MUSICAL INSTRUMENTS	(64.0200)	3930	
419	DOLLS	(64.0302)	3942	
420	GAMES, TOYS, AND CHILDRENS VEHICLES	(64.0301)	3944	
421	SPORTING AND ATHLETIC GOODS, N.E.C.	(64.0400)	3949	
422	PENS AND MECHANICAL PENCILS	(64.0501)	3951	
	IMPLAN Sector Name	'82 BEA Commodity	1987 Standard Industrial Classification	
423	LEAD PENCILS AND ART GOODS	(64.0502)	3952	
424	MARKING DEVICES	(64.0503)	3953	
425	CARBON PAPER AND INKED RIBBONS	(64.0504)	3955	
426	COSTUME JEWELRY	(64.0105)	3961	
427	FASTENERS, BUTTONS, NEEDLES, PINS	(64.0701,64.0702)	3965	
428	BROOMS AND BRUSHES	(64.0800)	3991	
429	SIGNS AND ADVERTISING DISPLAYS	(64.1100)	3993	
430	BURIAL CASKETS AND VAULTS	(64.1000)	3995	
431	HARD SURFACE FLOOR COVERINGS	(64.0900)	3996	
432	MANUFACTURING INDUSTRIES, N.E.C.	(64.0600,64.1200)	3999	
433	████████████████████	██████	██████	████████
434	████████████████████	██████	██	
435	████████████████████ ██████████	██████	██	████████
436	████████████████████	██████	██	
437	████████████████████	██████	██	
438	████████████████████	██████	██	
439	████████████████████ ██████████	██████	██	
440	████████████████████	██████	████████	████████
441	████████████████████	██████	██████████	
442	████████████████████	██████	██	
443	ELECTRIC SERVICES	(68.0100)	4910	Also part of 4930
444	GAS PRODUCTION AND DISTRIBUTION	(68.0200)	4920	Also part of 4930

445	WATER SUPPLY AND SEWERAGE SYSTEMS	(68.0301)	4940 4952	
446	SANITARY SERVICES AND STEAM SUPPLY	(68.0302)	4953 4959 4960 4970	
447	WHOLESALE TRADE	(69.0100)	5000 5100	
448	BUILDING MATERIALS & GARDENING SUPPLIES	(pt 69.0200)	5200	
449	GENERAL MERCHANDISE STORES	(pt 69.0200)	5300	
450	FOOD STORES	(pt 69.0200)	5400	
451	AUTOMOTIVE DEALERS & SERVICE STATIONS	(pt 69.0200)	5500	
452	APPAREL & ACCESSORY STORES	(pt 69.0200)	5600	
453	FURNITURE & HOME FURNISHINGS STORES	(pt 69.0200)	5700	
454	EATING & DRINKING	(74.0000)	5800	
455	MISCELLANEOUS RETAIL	(pt 69.0200)	5900	
456	BANKING	(70.0100)	6000	
457	CREDIT AGENCIES	(70.0200)	6100 6710 6720 6733 6790	
458	SECURITY AND COMMODITY BROKERS	(70.0300)	6200	
459	INSURANCE CARRIERS	(70.0400)	6300	
460	INSURANCE AGENTS AND BROKERS	(70.0500)	6400	
461	OWNER-OCCUPIED DWELLINGS	(71.0100)		
462	REAL ESTATE	(71.0201,71.0202)	6500	
463	HOTELS AND LODGING PLACES	(72.0100)	7000	
464	LAUNDRY, CLEANING AND SHOE REPAIR	(72.0201)	7210 7250	
465	PORTRAIT AND PHOTOGRAPHIC STUDIOS	(pt 72.0203)	7220	
466	BEAUTY AND BARBER SHOPS	(72.0300)	7230 7240	
467	FUNERAL SERVICE AND CREMATORIES	(72.0202)	7260	
468	MISCELLANEOUS PERSONAL SERVICES	(pt 72.0203)	7290	
469	ADVERTISING	(73.0200)	7310	
470	OTHER BUSINESS SERVICES	(73.0109)	7320 7331 7338 7383 7389	
471	PHOTOFINISHING, COMMERCIAL PHOTOGRAPHY	(73.0108)	7334 7335 7336 7384	
472	SERVICES TO BUILDINGS	(73.0102)	7340	
473	EQUIPMENT RENTAL AND LEASING	(73.0107)	7350	
474	PERSONNEL SUPPLY SERVICES	(73.0103)	7360	
475	COMPUTER AND DATA PROCESSING SERVICES	(73.0104)	7370	
476	DETECTIVE AND PROTECTIVE SERVICES	(73.0106)	7381 7382	
477	AUTOMOBILE RENTAL AND LEASING	(75.0001)	7510	

478	AUTOMOBILE PARKING AND CAR WASH	(75.0003)	7520 7542	
479	AUTOMOBILE REPAIR AND SERVICES	(75.0002)	7530 7549	
480	ELECTRICAL REPAIR SERVICES	(72.0204)	7620	
481	WATCH, CLOCK, JEWELRY AND FURNITURE REPAIR	(72.0205)	7630 7640	
482	MISCELLANEOUS REPAIR SHOPS	(73.0101)	7690	
483	MOTION PICTURES	(76.0100)	7800	
484	THEATRICAL PRODUCERS, BANDS ETC.	(76.0201)	7920	
485	BOWLING ALLEYS AND POOL HALLS	(76.0202)	7930	
	IMPLAN Sector Name	'82 BEA Commodity	1987 Standard Industrial Classification	
486	COMMERCIAL SPORTS EXCEPT RACING	(76.0203)	7941	
487	RACING AND TRACK OPERATION	(76.0204)	7948	
488	AMUSEMENT AND RECREATION SERVICES, NEC	(76.0206)	7910 7991 7992 7993 7996 7999	
489	MEMBERSHIP SPORTS AND RECREATION CLUBS	(76.0205)	7997	
490	DOCTORS AND DENTISTS	(77.0100)	8010, 8020, 8030, 8040	
491	NURSING AND PROTECTIVE CARE	(77.0301)	8050	
492	HOSPITALS	(77.0200)	8060	
493	OTHER MEDICAL AND HEALTH SERVICES	(77.0302)	0740, 8070, 8080, 8090	
494	LEGAL SERVICES	(73.0301)	8110	
495	ELEMENTARY AND SECONDARY SCHOOLS	(77.0401)	8210	
496	COLLEGES, UNIVERSITIES, SCHOOLS	(77.0402)	8220	
497	OTHER EDUCATIONAL SERVICES	(77.0403)	8230 8240 8290	
498	JOB TRAININGS & RELATED SERVICES	77.06	8330	
499	CHILD DAY CARE SERVICES	77.07	8350	
500	SOCIAL SERVICES, N.E.C.	(77.0900)	8320 8390	
501	RESIDENTIAL CARE	(77.0800)	8360	
502	OTHER NONPROFIT ORGANIZATIONS	(77.0504)	8400 8650 8690 6732 8922	
503	BUSINESS ASSOCIATIONS	(77.0501)	8610 8620	
504	LABOR AND CIVIC ORGANIZATIONS	(77.0502)	8630 8640	
505	RELIGIOUS ORGANIZATIONS	(77.0503)	8660	
506	ENGINEERING, ARCHITECTURAL SERVICES	(73.0302)	8710	
507	ACCOUNTING, AUDITING AND BOOKKEEPING	(73.0303)	8720, 8990	
508	MANAGEMENT AND CONSULTING SERVICES	(pt 73.0105)	8740	



509	RESEARCH, DEVELOPMENT & TESTING SERVICES	(pt 73.0105)	8730	
510	████████████████████	██████		██████
511	STATE AND LOCAL ELECTRIC UTILITIES	(79.0200)		Part of 4910
512	OTHER STATE AND LOCAL GOVT ENTERPRISES	(79.0300)	--	
513	████████████████████	██████	██	
514	FEDERAL ELECTRIC UTILITIES	(78.0200)		Part of 4910
515	OTHER FEDERAL GOVERNMENT ENTERPRISES	(78.0400)	--	
516	NONCOMPARABLE IMPORTS	(80.0000)	--	
517	SCRAP	(81.0001)	--	
518	USED AND SECONDHAND GOODS	(81.0002)	--	
519	FEDERAL GOVERNMENT - MILITARY	(pt 82.0000)	--	
520	FEDERAL GOVERNMENT - NON-MILITARY	(pt 82.0000)	--	
521	COMMODITY CREDIT CORPORATION	(78.0300)		
522	STATE & LOCAL GOVERNMENT – EDUCATION			
	(pt 82.0000)	--		
523	STATE & LOCAL GOVERNMENT - NON-EDUCATION	(pt 82.0000)	--	
524	REST OF THE WORLD INDUSTRY	(83.0000)	--	
525	DOMESTIC SERVICES	(pt 84.0000)	8800	
526	DUMMY			
527	DUMMY			
528	INVENTORY VALUATION ADJUSTMENT	(85.0000)	--	