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County and BEA Economic Area Employment Estimates for 1974 and 1985: [United States]

William Beyers

ICPSR 9278

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COUNTY AND BEA ECONOMIC AREA EMPLOYMENT ESTIMATES FOR 1974 AND 1985: [UNITED STATES]

(ICPSR 9278)

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University of Washington

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DATA COLLECTION DESCRIPTION

Beyers, William B
COUNTY AND BEA ECONOMIC AREA EMPLOYMENT ESTIMATES FOR 1974 AND 1985: [UNITED STATES] (ICPSR 9278)

SUMMARY: This study provides employment estimates for a number of different fields. Using Standard Industrial Classification (SIC) designations and an aggregate of the SIC codes, data are presented by county and Bureau of Economic Analysis (BEA) economic regions which are aggregates of counties. The BEA economic regions data files are categorized further by Metropolitan Statistical Areas and non-Metropolitan Statistical Areas. Industrial categories covered include agricultural services, eating and drinking places, and health services. CLASS IV

UNIVERSE: Counties in the United States.
NOTE: Some employment estimates in state files are negative. For the following state files, a blank line which according to the format should be present at the end of the file is missing: 1985 Alaska (part 4), 1974 and 1985 Arizona (parts 5-6), 1974 California (part 9), 1974 Georgia (part 21), 1974 Michigan (part 45), 1974 and 1985 Missouri (parts 49 and 50), 1974 and 1985 Montana (parts 53-54), 1974 Nevada (part 61), 1974 New Jersey (part 65), 1974 New Mexico (part 67), 1974 and 1985 Virginia (parts 93 and 94), 1974 Washington (part 95), 1974 Wisconsin (part 97), and 1985 Wyoming (part 102).

EXTENT OF COLLECTION: 108 data files + machine-readable documentation
DATA FORMAT: Card Image

Parts 1-102: State files, Alabama through Wyoming, for 1974 and 1985
File Structure: rectangular
Cases: 1 to 254 per part
Variables: 100
Record Length: 80
Records Per Case: 11

Part 103: Employment Estimates for BEA Regions Using Detailed Industrial Classifications, 1974
File Structure: rectangular
Cases: 366
Variables: 98
Record Length: 80
Records Per Case: 12

Part 104: Employment Estimates for BEA Regions Using Detailed Industrial Classifications, 1985
File Structure: rectangular
Cases: 366
Variables: 98
Record Length: 80
Records Per Case: 12

Part 105: Employment Estimates for BEA Regions Using Broad Industrial Categories, 1974
File Structure: rectangular
Cases: 366
Variables: 24
Record Length: 80
Records Per Case: 3

Part 106: Employment Estimates for BEA Regions Using Broad Industrial Categories, 1974
File Structure: rectangular

Part 107: Employment Estimates for BEA Regions: SMSA and nonSMSA Counts Summed Together, 1974
File Structure: rectangular
Cases: 183

Cases: 366
Variables: 24
Record Length: 80
Records Per Case: 3

Part 108: Employment Estimates for BEA Regions: SMSA and non-SMSA Counts Summed Together, 1985
File Structure: rectangular
Cases: 183
Variables: 101
Record Length: 80
Records Per Case: 13

Part 110: Standard Industrial Classification (SIC) List
File Structure: rectangular
Cases: 98
Record Length: 80

Variables: 101
Record Length: 80
Records Per Case: 13

Part 109: Names of the BEA Regions
File Structure: rectangular
Cases: 183
Record Length: 80

TABLE OF CONTENTS

	page no.
Inventory Description of data items on tape from Beyers EDA project	1
Table One: SIC Code List Used for Parts 1-104 and 107-108	2
Table Two: Sectoring Plan for Aggregated Files Used for Parts 105-106	4
Table Three: BEA Economic Region Names	5
File Formats	
State Files, Parts 1-102	9
Employment Estimates for BEA Regions Using Detailed Industrial Classifications Parts 103-104	10
Employment Estimates for BEA Regions Using Broad Industrial Classifications Parts 105-106	11
Employment Estimates for BEA Regions: SMSA and nonSMSA Counts Summed Together Parts 107-108	12
Data Base Development	13
Figure 1: Data Base Estimation Procedures	15

Inventory and description of data items on tape from Beyers EDA project.

This dataset contains 110 files; 102 files are state files which contain employment estimates for individual counties. These data are developed from County Business Patterns (CBP) data tapes. Six files contain employment estimates aggregated from the county level to the BEA region level. The last two files are descriptors for the data files. Below, the contents of the files and the methodology used to estimate employment values when the Census Bureau applied a suppression code to employment on the CBP data tapes are discussed.

The state employment estimates for 1974 and 1985 are reported using two coding schemes. One scheme consists of 98 categories and is shown in Table 1. The other scheme consists of 24 categories which are aggregates of the 98 codes. This second set of codes is shown in Table 2.

Data from County Business Patterns exclude coverage of government and agricultural employment. Government employment data were available from CD-ROM discs of Slater-Hall Incorporated and are included with this data collection. Unfortunately, the data only are available for 1980. Consequently, these government employment estimates are repeated in the 1974 and 1985 files.

The file entitled NAMES on the data tape contains the names of the 183 BEA economic areas. Table 3, shows this list of names. For a description of the county by county assignment to individual BEA economic areas, see: U.S. Department of Commerce, Bureau of Economic Analysis, BEA Economic Areas. Revised 1977.

Table 1, SIC Code List

Field No.	SIC	SIC Name
1	----	TOTAL
2	0700	AGRICULTURAL SERVICES
3	0800	FORESTRY
4	0900	FISHING, HUNTING & TRAPPING
5	098/	ADMIN. & AUXILIARY
6	1000	METAL MINING
7	1200	BITUMINOUS COAL & LIGNITE MINING
8	1300	OIL & GAS EXTRACTION
9	1400	NONMETALLIC MINERALS, EXCEPT FUELS
10	149/	ADMIN. & AUXILIARY
11	1500	GENERAL BUILDING CONTRACTORS
12	1600	HEAVY CONSTRUCTION CONTRACTORS
13	1700	SPECIAL TRADE CONTRACTORS
14	179/	ADMIN & AUXILIARY
15	2000	FOOD & KINDRED PRODUCTS
16	2100	TOBACCO MANUFACTURES
17	2200	TEXTILE MILL PRODUCTS
18	2300	APPAREL & OTHER TEXTILE PRODUCTS
19	2400	LUMBER & WOOD PRODUCTS
20	2500	FURNITURE & FIXTURES
21	2600	PAPER & ALLIED PRODUCTS
22	2700	PRINTING & PUBLISHING
23	2800	CHEMICAL & ALLIED PRODUCTS
24	2900	PETROLEUM & COAL PRODUCTS
25	3000	RUBBER & MISC PLASTICS PRODUCTS
26	3100	LEATHER & LEATHER PRODUCTS
27	3200	STONE, CLAY & GLASS
28	3300	PRIMARY METAL INDUSTRIES
29	3400	FABRICATED METAL PRODUCTS
30	3500	NONELECTRICAL MACHINERY
31	3600	ELECTRIC AND ELECTRONIC EQUIPMENT
32	3700	TRANSPORTATION EQUIPMENT
33	3800	INSTRUMENTS AND RELATED PRODUCTS
34	3900	MISCELLANEOUS MANUFACTURING
35	399/	ADMIN. & AUXILIARY
36	4100	LOCAL & INTERURBAN TRANSIT
37	4200	TRUCKING & WAREHOUSING
38	4400	WATER TRANSPORTATION
39	4500	AIR TRANSPORTATION
40	4600	PIPE LINES, EXCEPT NATURAL GAS
41	4700	TRANSPORTATION SERVICES
42	4800	COMMUNICATION
43	4900	ELECTRIC, GAS AND SANITARY SERVICES
44	497/	ADMIN. & AUXILIARY
45	5000	WHOLESALE TRADE-DURABLE
46	5100	WHOLESALE TRADE-NONDURABLE
47	519/	ADMIN & AUXILIARY
48	5200	BUILDING MATERIALS & GARDEN SUPPLIES
49	5300	GENERAL MERCHANDISE STORES
50	5400	FOOD STORES

51	5500	AUTOMOTIVE DEALERS & SERVICE STATIONS
52	5600	APPAREL & ACCESSORY STORES
53	5700	FURNITURE & HOME FURNISHINGS STORES
54	5800	EATING & DRINKING PLACES
55	5900	MISCELLANEOUS RETAIL
56	599/	ADMIN & AUXILIARY
57	6000	BANKING
58	6100	CREDIT AGENCIES
59	6200	SECURITY COMMODITY BROKERS & SERVICES
60	6300	INSURANCE CARRIERS
61	6400	INSURANCE AGENTS, BROKERS & SERVICES
62	6500	REAL ESTATE
63	6600	COMBINED REAL ESTATE, INSURANCE, ETC
64	6700	HOLDING & OTHER INVESTMENT OFFICES
65	679/	ADMIN & AUXILIARY
66	7000	HOTELS & OTHER LODGING PLACES
67	7200	PERSONAL SERVICES
68	7310	ADVERTISING
69	7320	CREDIT REPORTING & COLLECTION
70	7330	MAILING, REPRODUCTION, STENOGRAPHIC
71	7340	SERVICES TO BUILDINGS
72	7350	NEWS SYNDICATES
73	7360	PERSONNEL SUPPLY SERVICES
74	7370	COMPUTER & DATA PROCESSING SERVICES
75	7391	RESEARCH & DEVELOPMENT LABS
76	7392	MANAGEMENT & PUBLIC RELATIONS
77	7393	DETECTIVE & PROTECTION SERVICES
78	7394	EQUIPMENT RENTAL & LEASING
79	7395	PHOTOFINISHING LABS
80	7396	TRADING STAMP SERVICES
81	7397	COMMERCIAL TESTING LABS
82	7399	BUSINESS SERVICES, N.E.C.
83	7500	AUTO REPAIR, SERVICES, & GARAGES
84	7600	MISCELLANEOUS REPAIR SERVICES
85	7800	MOTION PICTURES
86	7900	AMUSEMENT & RECREATION SERVICES
87	8000	HEALTH SERVICES
88	8100	LEGAL SERVICES
89	8200	EDUCATIONAL SERVICES
90	8300	SOCIAL SERVICES
91	8400	MUSEUMS, BOTANICAL GARDENS & ZOOS
92	8600	MEMBERSHIP ORGANIZATIONS
93	8910	ENGINEERING & ARCHITECTURAL SERVICES
94	8920	NONCOMMERCIAL RESEARCH ORGANIZATIONS
95	8930	ACCOUNTING, AUDITING, & BOOKKEEPING
96	8990	SERVICES, N.E.C.
97	899/	SERVICES ADMIN & AUX.
98	99--	EMPLOYMENT NEC

Table 2
Sectoring plan for aggregated files

Data Field	SIC	Sector Name
1	07-09	Primary activity (except 098/)
2	10-14	Mining (except 149/)
3	15-17	Construction (except 179/)
4	20-39	Manufacturing (except 399/)
5	41-49	Transportation, Communications, Utilities (except 497/)
6	50-51	Wholesale Trade (except 519/)
7	52-59	Retail Trade (except 599/)
8	60-67	Finance, Insurance, Real Estate (except 679/)
9	73	Business Services
10	72	Personal Services
11	098/,149/, 179/,399/, 497/,519/, 599/,679/, 899/	Administrative & Auxiliary
12	80	Health Services
13	82	Educational Services
14	81	Legal Services
15	86	Membership Organizations
16	89	Miscellaneous Professional Services
17	83	Social Services
18	70	Hotels & Other Lodging Places
19	75	Auto Repair, Services, & Garages
20	76	Miscellaneous Repair Services
21	78	Motion Pictures
22	79	Amusements & Recreation
23	84	Museums, Botanical Gardens & Zoos
24	99	Unclassified Employment

Table 3
BEA ECONOMIC REGION NAMES

1. BANGOR, ME
2. *PORTLAND-LEWISTON, ME
3. BURLINGTON, VT
4. *BOSTON, MASS
5. PROVIDENCE-WARWICK-PAWTUCKET, RI
6. *HARTFORD-NEW HAVEN-SPRINGFIELD, CT-MA
7. ALBANY-SCHENECTADY-TROY, NY
8. *SYRACUSE-UTICA, NY
9. ROCHESTER, NY
10. BUFFALO, NY
11. *BINGHAMTON-ELMIRA, NY
12. *NEW YORK, NY
13. SCRANTON-WILKES BARRE, PA
14. WILLIAMSPORT, PA
15. ERIE, PA
16. *PITTSBURGH, PA
17. *HARRISBURG-YORK-LANCASTER, PA
18. *PHILADELPHIA, PA
19. BALTIMORE, MD
20. WASHINGTON, DC
21. *ROANOKE-LYNCHBURG, VA
22. *RICHMOND, VA
23. *NORFOLK-VIRGINIA BEACH-NEWPORT NEWS, VA
24. +ROCKY MOUNT-WILSON-GREENVILLE, NC
25. WILMINGTON, NC
26. FAYETTEVILLE, NC
27. RALIEGH-DURHAM, NC
28. *GREENSBORO,NC
29. CHARLOTTE, NC
30. ASHEVILLE, NC
31. GREENEVILLE-SPARTANBURG, SC
32. COLUMBIA, SC
33. +FLORENCE, SC
34. CHARLESTON-NORTH CHARLESTON, SC
35. AUGUSTA, GA
36. ATLANTA, GA
37. COLUMBUS, GA
38. MACON, GA
39. SAVANNAH, GA
40. ALBANY, GA
41. *JACKSONVILLE, FL
42. *ORLANDO-MELBOURNE-DAYTONA BEACH, FL
43. *MIAMI-FT. LAUDERDALE, FL
44. *TAMPA-ST. PETERSBURG, FL
45. TALLAHASSEE, FL
46. *PENSACOLA-PANAMA CITY, FL

* Multiple SMSA's in BEA Economic Region
+ No SMSA in BEA Economic Region

TABLE 3, continued
BEA ECONOMIC REGION NAMES

47. *MOBILE, AL
48. MONTGOMERY, AL
49. *BIRMINGHAM, AL
50. *HUNTSVILLE-FLORENCE, AL
51. CHATTANOOGA, TN
52. JOHNSON CITY-KINGSPORT-BRISTOL, TN-VA
53. KNOXVILLE, TN
54. *NASHVILLE, TN
55. MEMPHIS, TN
56. +PADUCAH, KY
57. LOUISVILLE, KY
58. LEXINGTON, KY
59. HUNTINGTON, WV
60. CHARLESTON, WV
61. +MORGANTOWN-FAIRMONT, WV
62. PARKERSBURG, WV
63. *WHEELING-STEUBENVILLE-WIERTON, WV-OH
64. YOUNGSTOWN-WARREN, OH
65. *CLEVELAND, OH
66. COLUMBUS, OH
67. *CINCINNATI, OH
68. *DAYTON, OH
69. LIMA, OH
70. TOLEDO, OH
71. *DETROIT, MI
72. *SAGINAW-BAY CITY, MI
73. *GRAND RAPIDS, MI
74. *LANSING-KALAMAZOO, MI
75. SOUTH BEND, IN
76. FORT WAYNE, IN
77. KOKOMO-MARION, IN
78. *ANDERSON-MUNCIE, IN
79. *INDIANAPOLIS, IN
80. *EVANSVILLE, IN
81. TERRE HAUTE, IN
82. LAFAYETTE, IN
83. *CHICAGO, IL
84. CHAMPAIGN-URBANA, IL
85. *SPRINGFIELD-DECATUR, IL
86. +QUINCY, IL
87. *PEORIA, IL
88. ROCKFORD, IL
89. *MILWAUKEE, WI
90. MADISON, WI
91. LACROSSE, WI
92. EAU CLAIRE, WI

* Multiple SMSA's in BEA Economic Region
+ No SMSA in BEA Economic Region

TABLE 3, continued
BEA ECONOMIC REGION NAMES

93. +WAUSAU, WI
94. *APPLETON-GREEN BAY-OSHKOSH, WI
95. DULUTH, MN
96. *MINNEAPOLIS, MN
97. ROCHESTER,MN
98. DUBUQUE, IA
99. DAVENPORT-ROCK ISLAND-MOLINE, IA-IL
100. CEDAR RAPIDS, IA
101. WATERLOO, IA
102. +FORT DODGE,IA
103. SIOUX CITY, IA
104. DES MOINES, IA
105. *KANSAS CITY, MO
106. COLUMBIA, MO
107. ST. LOUIS, MO
108. SPRINGFIELD, MO
109. FAYETTEVILLE, AR
110. FORT SMITH, AR
111. *LITTLE ROCK-NORTH LITTLE ROCK, AR
112. JACKSON, MS
113. *NEW ORLEANS, LA
114. BATON ROUGE, LA
115. LAFAYETTE, LA
116. LAKE CHARLES, LA
117. *SHREVEPORT, LA
118. MONROE, LA
119. TEXARKANA, TX
120. *TYLER-LONGVIEW, TX
121. BEAUMONT-PORT ARTHUR, TX
122. *HOUSTON, TX
123. AUSTIN, TX
124. *WACO-KILLEEN-TEMPLE, TX
125. *DALLAS-FORT WORTH, TX
126. WICHITA FALLS,TX
127. ABILENE, TX
128. SAN ANGELO, TX
129. *SAN ANTONIO, TX
130. CORPUS CHRISTI, TX
131. *BROWNSVILLE-MCALLEN-HARLINGEN, TX
132. *ODESSA-MIDLAND, TX
133. EL PASO, TX
134. LUBBOCK, TX
135. AMARILLO, TX
136. LAWTON, OK
137. OKLAHOMA CITY, OK
138. TULSA, OK

* Multiple SMSA's in BEA Economic Region
+ No SMSA in BEA Economic Region

TABLE 3, continued
BEA ECONOMIC REGION NAMES

139. WICHITA, KS
140. +SALINA, KS
141. TOPEKA, KS
142. LINCOLN, NE
143. OMAHA, NE
144. +GRAND ISLAND, NE
145. +SCOTTSBLUFF, NE
146. +RAPID CITY,SD
147. SIOUX FALLS, SD
148. +ABERDEEN, SD
149. FARGO-MOORHEAD, ND-MN
150. GRAND FORKS, ND
151. +BISMARCK, ND
152. +MINOT, ND
153. GREAT FALLS, MN
154. +MISSOULA, MN
155. BILLINGS, MN
156. CHEYENNE-CASPER, WY
157. *DENVER, CO
158. *COLORADO SPRINGS-PUEBLO, CO
159. +GRAND JUNCTION, CO
160. ALBEQUERQUE, NM
161. TUCSON, AZ
162. PHOENIX, AZ
163. LAS VEGAS, NV
164. RENO, NV
165. *SALT LAKE CITY-OGDEN, UT
166. +POCATELLO-IDAHO FALLS, ID
167. BOISE CITY, ID
168. SPOKANE, WA
169. RICHLAND, WA
170. YAKIMA, WA
171. *SEATTLE, WA
172. *PORTLAND, OR
173. EUGENE, OR
174. +REDDING, CA
175. +EUREKA, CA
176. *SAN FRANCISCO-OAKLAND-SAN JOSE, CA
177. SACRAMENTO, CA
178. *STOCKTON-MODESTO, CA
179. *FRESNO-BAKERSFIELD, CA
180. *LOS ANGELES, CA
181. SAN DIEGO, CA
182. ANCHORAGE, AK
183. HONOLULU, HI

* Multiple SMSA's in BEA Economic Region
+ No SMSA in BEA Economic Region

File Format

State files

The state files are organized as follows. They are county files sequenced by FIPS codes, with the FIPS code as variable 1 in each record. Variable 2 in each record indicates the BEA region number to which a county is assigned and ends with a 1 or 2 indicating whether the county is an SMSA (1) or non-SMSA (2) county. Then, 98 sectors of employment data, as identified in Table 1, above for each year. A typical record is structured as shown below.

Format: (2F6.0, F9.0,7F8.0/ 9(10F8.0/))

15001.	1832.	18512.	167.	0.	11.	0.	0.	0.	0.
11.	0.	713.	301.	540.	2.	2636.	0.	0.	67
8.	4.	0.	133.	0.	99.	0.	0.	49.	63
59.	76.	0.	8.	0.	48.	71.	199.	193.	68
226.	0.	39.	66.	348.	0.	609.	707.	11.	54.
672.	943.	667.	272.	244.	1646.	553.	13.	290.	180.
13.	15.	23.	255.	0.	59.	0.	2194.	287.	5.
11.	14.	114.	0.	0.	8.	14.	3.	28.	14.
0.	0.	0.	16.	334.	48.	45.	346.	267.	83.
142.	180.	9.	168.	81.	9.	184.	0.	5.	507.

FIN74; FIN85

These files are the metropolitan (SMSA) and nonmetropolitan (non-SMSA) components of the BEA economic areas. The file first contains the 183 records for metropolitan areas, followed by the 183 records for nonmetropolitan areas. The sequence of regions is as in the NAMES file shown in Table 3 above, and the employment estimates are ordered as in Table 1, above. A typical record is structured as shown below.

Format: (11(8F8.0/),10F8.0)

35035.	14.	65.	0.	0.	0.	0.	0.		
10.	0.	583.	234.	673.	0.	567.	0.		
1434.	12.	2047.	54.	4142.	468.	60.	10.		
0.	3281.	135.	36.	46.	631.	413.	50.		
11.	190.	580.	188.	558.	0.	40.	0.		
6.	978.	468.	8.	1386.	827.	41.	352.		
1103.	1075.	1396.	455.	337.	1576.	1034.	60.		
682.	95.	32.	139.	178.	178.	43.	5.		
0.	608.	500.	37.	7.	9.	65.	0.		
55.	31.	0.	4.	36.	31.	14.	0.		
0.	111.	151.	93.	39.	147.	2459.	200.		
334.	280.	7.	296.	87.	15.	75.	0.	8.	383

MNM74, MNM85

These files are an aggregated version of the 98 sector level of employment detail found in the files FIN74 and FIN85. They are sectored according to the plan shown in Table 2 above. The files are divided into metropolitan and nonmetropolitan components. The first 183 records are for metropolitan territory (SMSA), and the next 183 records are for nonmetropolitan territory. A typical record is structured as follows.

Format: (8F8.0/8F8.0/8F8.0)

79.	10.	1490.	13587.	2238.	2213.	7328.	1352.
400.	500.	697.	2459.	334.	200.	296.	177.
280.	608.	151.	93.	39.	147.	7.	383.

NBEAG74; NBEAG85

These files show aggregate employment for metropolitan and nonmetropolitan territory in each BEA economic area. In effect, they are simply the sum of the SMSA and non-SMSA components of employment shown in the FIN74 and FIN85 files. They have been expanded to include estimates of federal, state, and local employment, but it should be noted that these employment estimates are for the year 1980. Thus, these government employment estimates are the same on the files for both years. There are 183 records in each file, at 101 sectors of detail. The first 98 sectors are employment estimates for 1974 or 1985, defined as in Table 1, and the last three entries are 1980 estimates of employment in federal, state, and local government, respectively. A typical record is structured as shown below.

Format: (12(8F8.0/),5F8.0)

119225.	402.	100.	75.	0.	2.	0.	0.
31.	0.	1295.	480.	2216.	9.	3655.	0.
2053.	870.	6210.	323.	7867.	849.	180.	60.
44.	4448.	161.	39.	117.	567.	796.	622.
14.	158.	420.	400.	2007.	63.	450.	0.
119.	1259.	656.	104.	2385.	3743.	126.	950.
2475.	4195.	2892.	1000.	613.	5270.	2578.	38.
2038.	234.	57.	293.	547.	369.	80.	63.
0.	1493.	688.	34.	36.	24.	189.	0.
246.	126.	68.	105.	437.	109.	23.	5.
12.	487.	830.	171.	99.	280.	9712.	650.
926.	2243.	28.	1211.	200.	630.	266.	51.
20.	1592.	5364.	9173.	12644.			

Data base development

The BEA economic regions are a set of 183 regions, formed by grouping counties into regions which have one or more SMSA's as their "core," and non-metropolitan counties surrounding the SMSA cores. In some cases several SMSA's are contained in one BEA economic area; 266 SMSA's were defined by the Census Bureau when this regionalization was last undertaken.

In the research project which led to the creation of these files, the County Business Patterns (CBP) data tapes were the primary source of data. These tapes contain considerable industrial detail for each county in the United States, but exclude government and agricultural employment. A data base with 98 sectors of detail was developed for the SMSA and non-SMSA components of each BEA economic region, as shown in Table 1. The Census Bureau applies a disclosure rule to these data tapes, but provides suppression codes indicating an employment range for suppressed employment. Therefore, it is possible to know of the existence of employment in a sector in a particular county, even if exact employment data are not disclosed.

Figure 1 shows the procedure used to estimate the employment series from CBP data tapes. For each state the following procedure was used for the years 1974 and 1985. From the data tapes, known values (i.e. disclosed employment estimates including zero values) for each industry by county were placed in a data file, and the suppression codes were placed in another file. The magnitude of the missing values could then be calculated by summing the total known values by industry and county, and subtracting these estimates from county total employment and statewide industrial employment values. Then, the difference between the disclosed and the total values could be calculated, and used as constraints for a biproportional matrix adjustment procedure, which produced estimates of disclosed employment. Initial values for the suppression codes were given within the employment range of the suppression codes. Through iterative procedures, estimates for each industry in each county were derived that summed to the total value of the missing county and industrial employment levels. The resulting matrix of estimated employment was then merged with the matrix of known values, to obtain for each state in each year estimates of employment by county and industry. Thus, this procedure was undertaken 102 times, once for each state and the District of Columbia in each year. Finally, the county files for each year were merged into BEA regional files, either as SMSA or non-SMSA territory. It should be noted that BEA supplied a computer file of FIPS county codes and SMSA designations matched against BEA region numbers, which enormously speeded this aggregation process.

This aggregation procedure took about one man year, even with very efficient computer algorithms. Before federal budget cuts impacted federal statistical agencies, information at the BEA economic regional level was available to researchers, and it is possible that the lengthy aggregation procedure used in this project could have been avoided if data were still published using this regionalization. The procedure used in this project to develop a data base focussed on the BEA economic areas was not only time consuming, but it has used estimation procedures that may lead to error in estimated employment in particular industries and regions. Because disclosure rule problems were solved through use of the algorithm described above, errors have undoubtedly been introduced into the data base, errors of a magnitude that cannot be estimated since access to federal data bases free of disclosure problems were not available in this research project. However, having expressed this caveat, it is felt that the data base which was developed through the procedure described above provides a good, detailed employment series for purposes of this research project. In other contexts the biproportional matrix adjustment procedure has been shown to be an efficient and accurate estimation procedure.

In addition to employment data from CBP, data were also developed for another set of other variables through the use of CD-ROM compact discs available in the University of Washington library system. Table 3 shows the list of variables drawn from these compact discs. These data were off-loaded at the county level, so they could be aggregated as described above into the BEA SMSA and Non-SMSA regions. Unfortunately, these compact disc data series did not contain employment for agriculture, and contained only one year of data for employment in state and local government. Several years of data on federal employment were available. Therefore, it was not possible to extend the 1974-1985 CBP employment series to include agricultural and government employment for those years. However, measures of activity in these sectors for the year 1980 were developed from the CD-ROM data base described above.
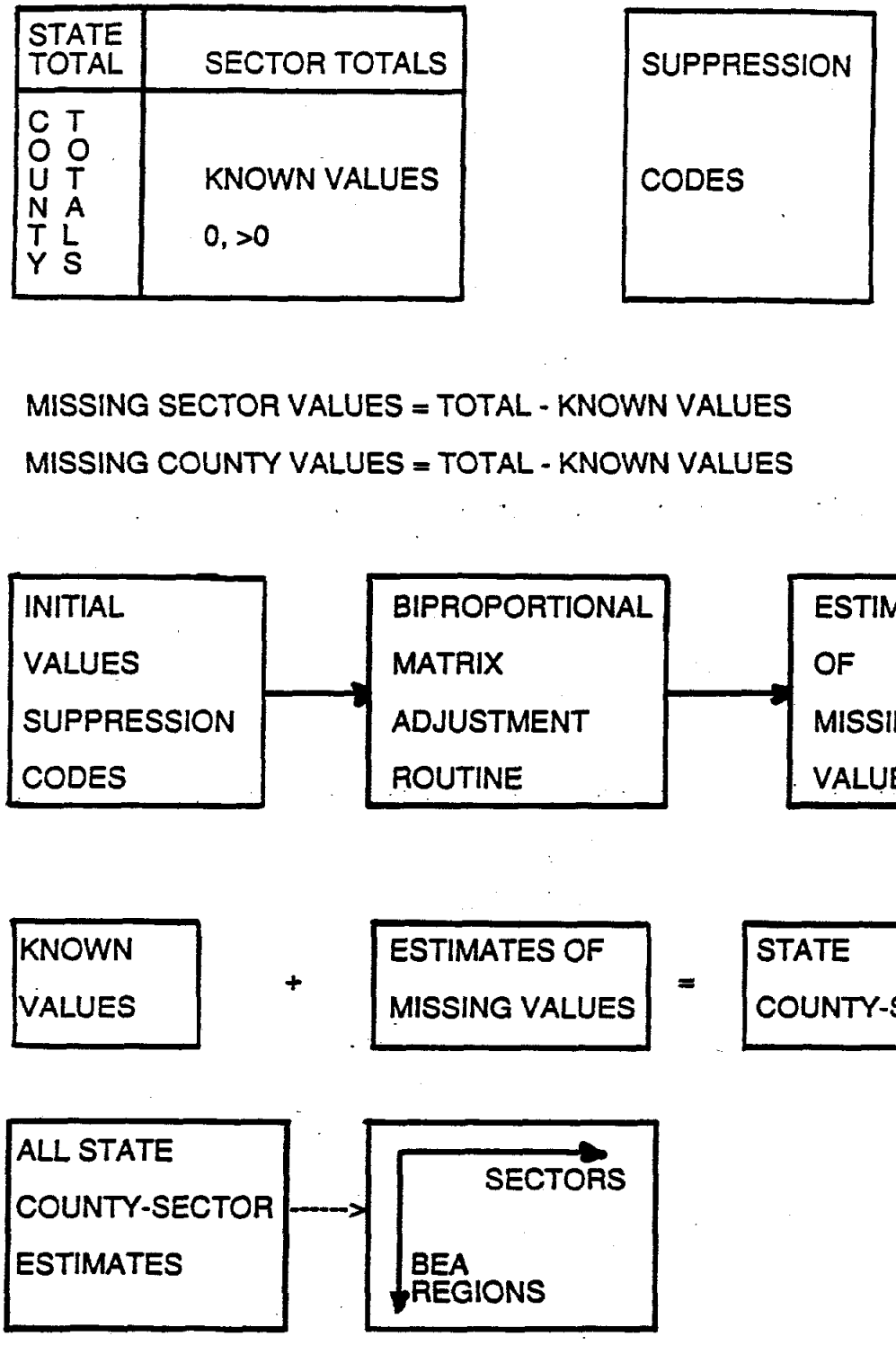
Figure 1
Data Base Estimation Procedures