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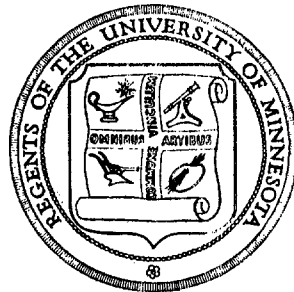
P79-37

October 1979

REGIONAL ECONOMIC FORECASTS FOR WATER AND
LAND RESOURCES PLANNING.

II. FORECAST SERIES: MINNESOTA

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Staff papers are published without formal review within the Department
of Agricultural and Applied Economics

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ACKNOWLEDGEMENT

This report is the sixth in the series on economic forecasts and forecast methods. The focus of this research is on economic forecasts and forecast methods for water and land resources planning in Minnesota. Funding for the research was provided by the Minnesota Energy Agency while financial support of the Minnesota Agricultural Experiment Station made possible the compilation and assessment of the statistical series needed in the study.

ABSTRACT

Forecasts of employment, earnings, income and population are presented for the 13 substate development regions of Minnesota. Estimated 1970 and 1975 levels of the selected economic indicators are compared with their projected levels from 1980 to 2000. The forecast series is related to the 1972 OBERS-E series prepared by the Office of Business Economics, U.S. Department of Commerce for the U.S. Water Resources Council. This series differs, however, from the OBERS-E series because of lower projected population and employment for Minnesota. A shift-and-share technique is used in the preparation of this series.

SUMMARY AND CONCLUSIONS

Employment, earnings and income forecasts were prepared for the 13 substate regions in Minnesota for the 50-year period from 1970 to 2020. This series, while linked to both the U.S. Department of Commerce Regional Economic Information System estimates and the U.S. Water Resources Council OBERS-E projections, has heretofore not been available for water and land resources planning purposes in Minnesota and its substate regions. One important contribution of this series is, therefore, to make available several basic economic forecasts for a 25-industry breakdown of the total economy which are internally consistent and adjusted to the published State population projections currently used in long-term planning in the State.

These projections show Minnesota and its substate regions, especially those outside the Minneapolis-St. Paul area, gaining in their rates of increase in employment, earnings and income. The more rapid expansion of employment in the non-metropolitan regions is especially evident in selected manufacturing, trade and service industries.

Additional study of industry trends and the related dynamics of regional growth and decline is needed, however, to fully account for recent shifts in regional employment levels. These shifts in historical employment trends and relationships result from many factors, including the increasing scarcity and cost of essential energy resources, the declining productivity of the employed work force, the increasing rate of participation of the total population in the labor force and the continuing low birth rates. Thus, while the detailed forecasts provide a new data base for water and land resource planning in Minnesota, they

must be used with caution and concern as to the validity of their underlying assumptions. Much attention is devoted in this report to the underlying economic trends and assumptions which are part of the forecast method and data base.

REGIONAL ECONOMIC FORECASTS FOR WATER AND
LAND RESOURCES PLANNING
II. FORECAST SERIES: MINNESOTA ^{1/}

Wilbur R. Maki ^{2/}

State and substate regional economic forecasts for water and land resources planning are presented in this report. The forecast methods used in the preparation of the forecast series presented here were discussed in Part I of the two-part report. In Part II, employment, earnings and income forecasts are presented for Minnesota and its 13 substate development regions. The forecast series are linked to the OBERS-E Projections for the U.S. Water Resources Council and the current Minnesota population and labor force projections prepared by the Minnesota State Demographer (13).^{3/}

Study Objectives

The primary study purpose was to develop a baseline economic projection series for Minnesota and its 13 substate development regions which relate the State and each substate region to corresponding U.S.

^{1/} This is the sixth in a series of reports on regional forecasting, the first being the Interim Report on Forecast Methods prepared for the Minnesota Energy Agency, October 1978. Four of the earlier reports were published under the Staff Paper Series of the Department of Agricultural & Applied Economics, University of Minnesota.

^{2/} The author gratefully acknowledges the contributions of Mason Chen in developing the forecast method and of both Mason Chen and Pornsak Chitphakdithai in preparing the data series cited or used in this report.

^{3/} See Part I, p. 34 for References Cited of this report.

projection series.^{4/} A 25-industry breakdown of employment and earnings was derived for each region for the 30-year period from 1970 to 2000.

The study purpose was implemented under three specific objectives which are to forecast:

- (1) the employed industry work force in each region;
- (2) the total earnings of the employed work force in each industry and region, and
- (3) the total income of the resident population in each region.

The 25-industry breakdown of the Minnesota economy is derived from the employment and income series presented in the two reports cited earlier (9,13). The 13 substate regions also are shown in the earlier reports and in Part I of this report.

The study objectives are intended to provide a general-purpose economic data base for land and water resources planning. This data base links county-level employment, earnings and income data series to state and national forecast series, such as the OBERS-E earnings projections. Also, in Part II, the Minnesota forecast series is used in identifying sources of economic change in Minnesota and its 13 substate regions and showing the importance of each source in accounting for the total economic change -- estimated and projected.

Study Approach

The study approach is determined by the study purpose and the available statistical series. A 25-industry breakdown of total employment

^{4/} Earlier reports in this series covered this objective (see, ref. 9,13). However, the earlier reports focused on the building of consistent employment and income projection series with reference to alternate methods for reporting employment. In this report, one of the reporting methods was used in preparing an expanded 25-industry breakdown of the state and substate employment and income data series.

and earnings was specified, first, because of the initial dependence of the forecast method on the OBERS projections, which, for sub-national economic areas and water resources subareas, provided data for no more than a 25-industry breakdown. Second, the shift-and-share forecast method was used because of the large data base which already provided many of the needed forecasts. This forecast method provides a technically appropriate procedure for allocating a portion of a given area forecast to each of its subareas.

A four-step approach was used in the preparation of the forecast series. An expanded shift-and-share forecast model was built for allocating the sub-national OBERS-E earnings projections to individual counties in each area and then deriving the corresponding industry employment projection series, given the projected earnings per worker for each industry in each county. To obtain the county level figure, the 1970 and 1975 employment and earnings estimates were used, but the corresponding average earnings projections for these counties were derived by applying U.S. growth rates, by industry, to each county estimate. Total personal income for the 1975-2000 period was derived subsequently, from the employment and earnings projections and the specified county-level population projections (5,9,13).^{5/}

The data presentation in Part II of this report follows the plan of approach. First, the sources of economic change for Minnesota and its

^{5/} Further discussion of this procedure may be found in Part I of this report. See: Wilbur R. Maki, Regional Economic Forecasts for Water and Land Resources Planning. I: Forecast System. Staff Paper Series P79-33, Department of Agricultural and Applied Economics, University of Minnesota, St. Paul, Minnesota, August 1979.

13 substate regions are discussed in the context of the shift-and-share forecast method. Next, the 25-industry employment series is presented, followed by the corresponding earnings series for the employed work force and the total personal income series. Finally, some implications of the trends and assumption of the state and substate forecast series for water and land resources planning in Minnesota are discussed.

EMPLOYMENT CHANGE SOURCES

For the Minnesota economy, employment change sources are largely external to the State. These external sources include general economic conditions as manifested, for example, by growth in total U.S. employment, earnings, and income. They include, also, specific industry shifts in demand and output and, also, employment and earnings.

The internal sources of employment change are manifested in the competitive position of Minnesota-based industries. This competitive position is measured by the relative (to U.S.) change in employment and earnings in each industry in the State.

Total Employment Change

Total employment change in each industry in Minnesota is shown for the historical period, 1970 to 1975, and the forecast period, 1975 to 2000 in Table 2.1. For all industries, total employment increased by 199,870 in the 1970-1975 period and it is projected to increase by 496,668 in the 1975-2000 period. Thus, the estimated annual increase of 2.4 percent in the 1970-1975 period is nearly two and one-half times the projected 1.0 percent annual increase in the 1975-2000 period.

During the 1970-1975 period, an increase of 207,310 in total employment was estimated for the seven growing industries. For the 18 declining industries, a total employment decrease of 7,440 was estimated. In comparison, for the 18 growing industries in the 1975-2000 period, an increase of 607,656 in total employment was projected, while a decrease of 110,388 in total employment was projected for the seven declining industries. Thus, projected industry-to-industry differences in growth patterns are reversed from the corresponding historical patterns. Also,

annual rates of growth and decline are less divergent in the 1975-2000 period than in the 1970-1975 period. For the U.S., the estimated annual growth rate of 1.3 percent for the 1970-1975 period is only one-half of the Minnesota rate, but the 1.2 percent rate for the 1975-2000 period is one-fifth higher than the corresponding rate for Minnesota.

The differential employment growth rates for Minnesota and the U.S. are explained by the two relative change components in Table 2.1, namely, industry mix and regional share. The more rapid employment growth in Minnesota than in the U.S. in the 1970-1975 period is accounted for by the positive relative-change effects in the 1970-1975 period and the negative relative-change effects in the 1975-2000 period. The industry employment effects of the two relative-change sources are discussed in this chapter. First, however, the role of the national-growth effect on industry employment in Minnesota is assessed.

External Change Sources

The national-growth effect is the first of the two external employment change sources. The second -- the industry-mix effect -- accounts for the contrasting regional rates of growth because of regional differences in the industry composition of total employment. The total Minnesota employment effect of the two employment change sources as shown in Table 2.2, are attributed to external economic forces. This combined effect is sometimes called a proportional effect, as in Table 2.3, that is, the effect on Minnesota industry employment of a change in specified Minnesota industry employment if it were to change at the U.S. annual rate for that industry.

TABLE 2.2. ESTIMATED AND PROJECTED NATIONAL GROWTH, INDUSTRY-MIX, AND REGIONAL-SHARE MIX COEFFICIENTS FOR SPECIFIED INDUSTRY IN MINNESOTA, 1970-2000.

INDUSTRY	INDUSTRY-MIX COEFFICIENT						REGIONAL-SHARE COEFFICIENT					
	ESTIMATED			PROJECTED			ESTIMATED			PROJECTED		
	1970-1975	1975-1980	1980-1985	1985-1990	1990-2000	1970-1975	1975-1980	1980-1985	1985-1990	1990-2000		
1 AGR., FOR., FISH	.03471	.43535	.18955	.12852	.21100	.13264	.04573	.00014	.00054	.00685		
2 MINING	.14278	.41721	.10575	.10598	.17070	.22535	.14447	.02433	.02399	.01751		
3 CONSTRUCTION	.07469	.04194	.00573	.01032	.01304	.01393	.17840	.00973	.04887	.00971		
4 FOOD PROD.	.13528	.08798	.07455	.07730	.13695	.06035	.15367	.03400	.03294	.03075		
5 TEXTILE PROD.	.18312	.00542	.15835	.07125	.12736	.10841	.03376	.01055	.01227	.02081		
6 APPAREL	.15561	.11466	.01184	.04851	.08851	.08066	.21127	.05925	.05381	.06179		
7 LUMBER	.06893	.02974	.06467	.05964	.10387	.00601	.13291	.01352	.01482	.02595		
8 PAPER PROD.	.14904	.13041	.01399	.01788	.02002	.07412	.41227	.00054	.00011	.00539		
9 PRINTING	.09185	.01987	.02909	.04417	.06600	.01694	.33425	.00044	.00131	.00963		
10 CHEMICAL PROD.	.09519	.11450	.00888	.05222	.05782	.02023	.41451	.03043	.02933	.03195		
11 PETRO PROD.	.07972	.00748	.08228	.06529	.11102	.08492	.05215	.03084	.03025	.04051		
12 PRIMARY METAL	.19539	.06766	.05075	.09394	.16079	.12043	.37162	.00532	.00736	.00137		
13 FABR. METALS	.01045	.08763	.02679	.01943	.02803	.06449	.13822	.01291	.01111	.00805		
14 MACHINERY	.02723	.08930	.00366	.02498	.04529	.04763	.14380	.04723	.04665	.05725		
15 ELECTRICAL	.17976	.16350	.01877	.02020	.06043	.10485	.15820	.01503	.01547	.02380		
16 MOTOR VEHICLE	.09950	.51185	.07381	.02423	.03117	.02467	.28910	.00088	.00030	.00884		
17 TRANSPORTATION	.33322	.13249	.06534	.06526	.12631	.25820	.31715	.06507	.07008	.07980		
18 OTHER MFG.	.06811	.10262	.01815	.01422	.00630	.05882	.06951	.00540	.00625	.00850		
19 TR., COM., UTIL.	.06481	.00838	.03743	.01155	.01643	.07299	.07544	.01135	.01150	.01859		
20 TRADE	.04764	.04028	.01849	.00634	.01120	.06540	.05872	.00240	.00316	.01170		
21 FIN., INS., REAL	.06734	.00846	.05905	.03793	.08337	.05155	.01525	.00527	.00428	.00276		
22 SERVICES	.08039	.04114	.01355	.04034	.04091	.07685	.07614	.00437	.00432	.00115		
23 FEDERAL GOV.	.05928	.12001	.02123	.03264	.03185	.06750	.03147	.00430	.00509	.01458		
24 STATE, LOCAL	.13838	.03136	.09422	.01214	.02841	.03447	.01283	.00993	.00845	.01004		
25 MILITARY	.27234	.85561	.05003	.04623	.08188	.19010	.70696	.01848	.01659	.01683		
26 TOTAL	-0	-0	-0	-0	-0	-0	-0	-0	-0	-0		

TABLE 2.3. PROJECTED PROPORTIONAL (NATIONAL-GROWTH AND INDUSTRY-MIX) EFFECT AND REGIONAL -SHARE EFFECT FOR SPECIFIED INDUSTRY IN MINNESOTA , 1975-2000.

INDUSTRY	PROPORTIONAL EFFECT					TOTAL	REGIONAL EFFECT				
	1975-1980	1980-1985	1985-1990	1990-2000	TOTAL		1975-1980	1980-1985	1985-1990	1990-2000	TOTAL
1 AGR.,FOR.,FISH	-53457.	-16210.	-8223.	-11850.	-89740.	-8129.	-16.	54.	629.	-7463.	
2 MINING	-4244.	-721.	-711.	-969.	-6646.	2170.	-316.	-236.	-191.	1378.	
3 CONSTRUCTION	13696.	5859.	3950.	10718.	34222.	13838.	-1029.	-375.	-1096.	10737.	
4 FOOD PROD.	2236.	-1411.	-1682.	-2792.	-3649.	7366.	-1956.	-1734.	-1559.	2067.	
5 TEXTILE PROD.	334.	-326.	-68.	-122.	-182.	87.	32.	33.	56.	209.	
6 APPAREL	167.	418.	-15.	-42.	527.	-1755.	-401.	-355.	-395.	-2927.	
7 LUMBER	1856.	-215.	-195.	-322.	1123.	1501.	198.	217.	380.	2296.	
8 PAPER PROD.	6515.	1486.	1211.	2717.	11931.	10136.	-22.	5.	237.	10355.	
9 PRINTING.	3695.	1988.	1368.	2508.	9559.	-10762.	11.	35.	275.	-10441.	
10 CHEMICAL PROD.	2095.	289.	291.	1002.	3677.	-3484.	-214.	-208.	-229.	-4136.	
11 PETRO PROD.	235.	-73.	-43.	-66.	112.	-108.	70.	53.	92.	122.	
12 PRIMARY METAL.	1630.	-5.	-317.	-496.	813.	-2995.	-42.	-49.	-9.	-3094.	
13 FABR. METALS	6362.	2383.	885.	1806.	11437.	-3955.	-401.	-357.	-270.	-4994.	
14 MACHINERY	14811.	4802.	2117.	3890.	25620.	9511.	4273.	4543.	6086.	24513.	
15 ELECTRICAL	6737.	2286.	2394.	5546.	16983.	3812.	500.	557.	928.	5797.	
16 MOTOR VEHICLE.	3118.	-156.	141.	331.	3434.	-1394.	-6.	2.	58.	-1340.	
17 TRANSPORTATION	2167.	-126.	-162.	-376.	1503.	-2573.	509.	543.	676.	-845.	
18 OTHER MFG.	1300.	3051.	2154.	4453.	10958.	2824.	242.	300.	429.	3795.	
19 TR.,COM.,UTIL.	11797.	1236.	4392.	9981.	27406.	-7049.	-1173.	-1130.	-1897.	-11250.	
20 TRADE	40123.	13888.	18176.	33580.	105773.	-24975.	1057.	1439.	5558.	-16921.	
21 FIN.,INS.,REAL	11765.	10115.	8617.	18268.	48764.	-1254.	-489.	-438.	305.	-1876.	
22 SERVICES	62005.	24660.	35557.	54576.	176798.	-26859.	-1928.	-1774.	-511.	-31072.	
23 FEDERAL GOV.	436.	898.	2543.	1749.	5626.	939.	134.	154.	509.	1747.	
24 STATE, LOCAL.	40661.	41651.	19124.	37931.	139367.	3143.	-2882.	-2758.	-3453.	-5959.	
25 MILITARY	2559.	-0.	0.	0.	2559.	-1827.	-61.	-54.	-54.	-1996.	
26 TOTAL	178687.	95767.	91503.	172020.	537977.	-41806.	-3910.	-2136.	6553.	-41299.	

(NUMBER)

National Growth

The national-growth effects for Minnesota industry and the corresponding national growth coefficients and annual rates of change for the 1970-2000 period are as follows: ^{6/}

<u>Period</u>	<u>National Growth Effect</u>		
	<u>Total</u> (no.)	<u>Coefficient</u> (pct.)	<u>Annual Rate</u> <u>of Change</u> (pct.)
Estimated:			
1970-1975	103,837	6.417	1.252
Projected:			
1975-1980	244,758	13.463	1.558
1980-1985	97,772	5.002	0.981
1985-1990	94,651	4.625	0.908
1990-2000	174,921	8.189	0.790
Total or Average	612,102	33.670	1.150

During the 1970-1975 period the national-growth effect accounted for 103,837, or 52 percent of the total employment change of 199,870.

The annual growth in total U.S. employment is projected to increase sharply in the 1975-1980 period from the relatively low employment level in 1975. In the following three period, however, the U.S. rate is projected to decline and, hence, the period-to-period increases in total Minnesota employment also are projected to decline. Thus, for Minnesota, the projected increase in total employment of 361,106 for the entire 1980-2000 period is only 50 percent higher than the projected increase of 240,585 for the 1975-1980 period.

^{6/} The national-growth coefficient, A, is given by the form,

$$\frac{EMPN'}{EMPN} - 1,$$

and the national-growth effect is given by the form,

$$Aempr,$$

where,

empr = base-year total employment in region;

EMPN = base-year total employment in nation;

EMPN' = forecast-year total employment in nation.

Industry Mix

The total Minnesota industry-mix effects and related statistics for the 1970-2000 period are as follows:^{7/}

<u>Period</u>	<u>Industry Mix Effect</u>		<u>Proportional Effect</u>	
	<u>Total</u> (no.)	<u>Annual Rate</u> <u>of Change</u> (pct.)	<u>Total</u> (no.)	<u>Annual Rate</u> <u>of Change</u> (pct.)
Estimated:				
1970-1975	25,876	0.318	129,713	1.554
Projected:				
1975-1980	-66,071	-0.720	178,687	1.866
1980-1985	-2,005	-0.006	95,767	0.959
1985-1990	-3,148	-0.017	91,503	0.877
1990-2000	-2,901	-0.001	172,020	0.776
Total or Ave.	-74,125	-0.129	534,665	1.037

For the 1970-1975 period, the industry-mix effect accounted for a total employment change of 25,876, or 13 percent, of the total Minnesota employment levels.

Total employment growth in the 1975-2000 period is expected to lag behind U.S. growth rates due to the adverse industry-mix effects. Total employment would decline by 74,125-- an annual rate of -0.129 -- from this effect alone.

^{7/} The industry-mix coefficient, B_i , and the proportional coefficient, P_i , are given by the forms,

$$\frac{EMP'_i}{EMP_i} - \frac{EMPN'_B}{EMPN_B} \quad \text{and} \quad \frac{EMP'_i}{EMP_i},$$

respectively, and the industry-mix and proportional effects are given by the forms,

$$B_i emp_i \quad \text{and} \quad P_i emp_i,$$

for each industry.

The large negative industry-mix effect in the 1975-1980 period results, in part, from an implicit redefinition of agricultural employment. Much of the part-time agricultural employment reported in 1970 and 1975 is not included in the post-1975 projections. In the 1980-2000 period, the large negative industry-mix effects are largely due to the importance of food products, manufacturing and trade in Minnesota in the two industries with large negative industry-mix coefficients.

Internal Change Sources

Internal sources of employment change are capsuled within the regional-share coefficient and the regional-share effect.^{8/} The total Minnesota regional-share effects, and the annual rates of change in total Minnesota employment due to these effects, are projected as follows:

<u>Period</u>	<u>Total</u> (no.)	<u>Annual Rate of Change</u> (pct.)
Estimated:		
1970-1975	70,157	0.852
Projected:		
1975-1980	-41,806	-0.435
1980-1985	-3,910	-0.038
1985-1990	-2,136	-0.019
1990-2000	6,553	0.032
Total or Ave.	-41,299	-0.105

^{8/} The regional-share coefficient is given by the form,

$$\frac{\text{emp}'_i}{\text{emp}_i} - \frac{\text{EMP}'_i}{\text{EMP}_i} ,$$

and the regional-share effect is given by the form,

$$C_i \text{emp}_i .$$

Thus, the large positive total regional-share effect in the 1970-1975 period accounted for 70,157, or 35 percent, of the total Minnesota employment change.

A reversal in the total regional-share effect from net positive to a net negative effect is expected during the 1975-2000 period.^{9/} In the 1975-1980 period, most of the negative effect is attributed to the lower anticipated rates of employment increase in printing and publishing, trade and services relative to U.S. growth rates. In the 1980-2000 period, construction, food products manufacturing, transportation, communications and utilities services and state and local government account for much of the reduced rate of projected employment growth in Minnesota. Two of the three industries -- foods products manufacturing and transportation, communication and utilities -- also are among the below-average growth industries in the nation as a whole.

In summary, much of the reduced rate of Minnesota employment growth projected for the 25-year period from 1975 to 2000 is attributed to the large negative industry-mix and regional-share effects projected for the 1975-1980 period. These two effects for the 1975-1980 period total to -107,877, or 93.5 percent of the total relative-change effect of -115,434 for the 1975-2000 period. Since, the negative industry-mix effect of -154,233 for agriculture alone is much larger than this total, the projected decline in the rate of employment growth in Minnesota can be attributed

^{9/} Use of the four-period breakdown of the 1970 to 2000 forecasts yields a derived total regional-share effect which differs from the derived total regional-share effect for the one-period breakdown (see, Tables 2.1 and 2.3). This difference, like the differences in the derivation of the national-growth and industry-mix effects, are due entirely to the use of two different time period breakdowns in deriving the employment-change effects.

entirely to the projected adverse industry-mix effect in agriculture. However, a large part of this adverse effect is due to an implicit re-definition of agricultural employment in the projection period, which, because of the proportionately larger agricultural employment in Minnesota than in the U.S. as a whole, reduces the Minnesota total employment-growth rate more than the corresponding U.S. growth rate.

Substate Distribution of Employment Change

The substate regional distribution of employment change is clearly affected by the industry-mix and the regional-share effects (Table 2.4). In the 1970-1975 period, a negative total industry-mix effect was combined with a negative total regional-share effect to sharply reduce the rate of total employment growth in the Metropolitan Council. Thus, while 54.8 percent of the Minnesota work force was employed in the Metropolitan Council Region in 1970, this region accounted for only 34.5 percent of the State's total employment change in the 1970-1975 period. However, in the 1975-2000 period, a large positive total industry-mix effect and a small negative total regional-share effect are projected, while for the rest of State large negative effects are projected from both employment change sources.

The four-period breakdown of the projected employment changes in the 13 substate regions shows large positive proportional effects for the Metropolitan Council Region for each of the four periods (Table 2.5). The largest positive proportional effect is projected for the first of the four period for both the Metropolitan Council Region and the State while negative proportional effects are projected for four of the 13 regions. The large positive effect is due, in part, to the negative Metropolitan

TABLE 2.4. ESTIMATED AND PROJECTED EMPLOYED WORKED FORCE IN SPECIFIED REGION, IN MINNESOTA, BY TYPE OF CHANGE, 1970-2000.

NO	TITLE	CHANGE 1970-1975				CHANGE 1975-2000				PROJECTED		
		ESTIMATED	RELATIVE CHANGE	ESTIMATED	RELATIVE CHANGE							
		1970	NATIONAL GROWTH	INDUSTRY MIX	REGIONAL SHARE	TOTAL CHANGE	1975	NATIONAL GROWTH	INDUSTRY MIX	REGIONAL SHARE	TOTAL CHANGE	2000
1	NORTHWEST	39293.	4854.	591.	2512.	7957.	47250.	12909.	-11658.	1157.	2418.	49658.
2	HEADWATERS	17223.	2127.	318.	1404.	3850.	21073.	5757.	-1547.	3095.	7305.	28378.
3	ARROWHEAD	123220.	15220.	-2790.	235.	12656.	135886.	37124.	-928.	-18655.	17541.	153627.
4	WEST CENTR	66525.	8217.	1269.	4744.	14231.	80756.	22063.	-12712.	253.	9604.	90360.
5	REGION FIV	38333.	4735.	528.	1084.	6347.	44680.	12207.	-4136.	2671.	10742.	55422.
6	UPPER MINN	40044.	4946.	63.	4497.	9507.	49551.	13537.	-4744.	3852.	12645.	62196.
7	SIX EAST R	23828.	2943.	460.	1319.	4722.	28550.	7800.	-5935.	-4815.	-2950.	25600.
8	EAST CENTR	25150.	3107.	494.	2219.	5320.	30970.	8461.	-3164.	19280.	24578.	55548.
9	CENTRAL MI	58494.	7225.	308.	7417.	14951.	73445.	20065.	-3503.	23241.	39804.	113249.
10	SOUTHWEST	53496.	6608.	964.	3434.	11056.	64562.	17638.	-12447.	-6352.	-1161.	63401.
11	REGION MIN	86728.	10713.	209.	5951.	16873.	103601.	28304.	-10144.	-1711.	16448.	120049.
12	SOUTHEASTE	158208.	19542.	498.	3977.	24017.	182225.	49784.	-10510.	2039.	41373.	223598.
13	METROPOLIT	887429.	109617.	-3886.	-36757.	68965.	953394.	261288.	81655.	-25606.	317337.	1273731.
0	TOTAL	1612088.	103837.	25876.	70157.	199870.	1817958.	633655.	-87079.	-49908.	496668.	2314626.

(NUMBER)

Table 2.5. Projected total employment change in specified region, by employment change effect and period, 1975-2000.

Region No.	Title	Proportional Effect				Total	Regional-Share Effect				Total			
		1975-1980	1980-1985	1985-1990	1990-2000		1975-1980	1980-1985	1985-1990	1990-2000				
														(number)
1.	Northwest	-2,457	64	771	1,787	164	575	846	288	544	2,253			
2.	Headwaters	654	848	841	1,776	4,119	-673	912	591	2,254	3,185			
3.	Arrowhead	12,525	6,674	5,547	11,248	35,995	-5,665	-3,738	-3,529	-5,522	-18,454			
4.	West Central	-478	1,168	1,914	4,530	7,133	-3,495	2,085	940	2,940	2,471			
5.	Region Five	1,213	2,312	2,028	4,086	9,639	-1,190	264	381	1,647	1,102			
6E.	Six East	2,129	1,854	1,796	4,000	9,779	-1,033	918	905	2,075	2,865			
6W.	Upper Minn. Valley	-918	-10	363	1,066	500	-1,577	-10	-432	-1,433	-3,451			
7E.	East Central	582	1,662	1,533	3,399	7,176	2,165	2,995	3,477	8,765	17,402			
7W.	Central Minnesota	3,668	4,078	3,926	8,143	19,815	1,919	3,643	4,605	9,821	19,988			
8.	Southwest	-1,378	1,457	1,757	3,776	5,612	811	-1,121	-1,876	-4,587	-6,773			
9.	Region Nine	3,248	1,979	2,634	6,344	14,245	-6,340	3,362	1,838	3,342	2,203			
10.	Southeastern	9,854	6,686	7,011	14,346	37,898	-7,099	3,493	2,157	4,914	3,474			
11.	Metro. Council	109,930	63,063	59,235	114,032	346,261	18,939	-13,652	-9,456	-24,763	-28,932			
	Total	178,687	95,767	91,503	172,020	537,977	-41,806	-3,910	-2,136	6,553	-41,299			

Council Region industry-mix effect in the 1970-1975 period and the accompanying low total employment growth rate for this region. Therefore, the 1975-1980 total employment change is larger than expected, given the relatively low total employment in 1975.

Conversely, the relatively high 1975 total employment levels in the remaining 12 regions accounts, in part, for the low proportional effects for these regions in 1975-1980 period. This dichotomy in the projection series is apparant, also, in the derived 1975-1980 regional-share effects for these 12 regions. Negative total regional-share effects were derived for eight substate regions for the first projection period. In later periods, however, negative total regional-share effects were derived for the Metropolitan Council Region, which again points to the possibility that the forecast assumptions may attribute a larger share of total population and employment growth to the Metropolitan Council Region than warranted by recent events.

EMPLOYMENT FORECASTS

Employment forecasts were prepared for the State and the 13 substate regions from two sets of assumptions. First, the U.S. Department of Commerce Regional Economic Information System and the OBERS-E projection series were used to establish a U.S. data base for deriving the national-growth and industry-mix coefficients in the forecast system (26,27). Second, the substate regional population projection series prepared by the State Demographer were used to establish projected total employment levels for each substate region (9,13). Both sets of assumptions are discussed and compared with recent trends and alternate employment projection series.

Trends and Assumptions

The Regional Economic Information System (REIS) is updated annually from records of the cooperative federal-state Unemployment Insurance Program and other sources, including the individual state agencies involved in collecting and reporting employment statistics. This series differs from the U.S. Bureau of Labor Statistics most recent projection (1,2,16,17,20,21) and, also, the U.S. Department of Commerce current projection series (25). Hence, some differences are observed between this employment series, which is linked to the REIS employment estimates, and the U.S. Bureau of Labor Statistics and the U.S. Department of Commerce employment projections.

The U.S. employment series used in the shift-and-share forecast method is presented, in part, in Table 2.6 of Part I of this report. The employment estimates for 1970 and 1975 are taken directly from the REIS data base while the employment projections for 1980, 1985, 1990 and

2000 are derived from the OBERS-E earnings projections and related earnings per worker projections.^{10/} The initial OBERS-based series is adjusted as indicated in the footnotes to Table 2.6.

Trends in the total U.S. employed work force, and its distribution among industry groups, are compared in Table 3.1 for the two employment series presented earlier in Part I of this report. Aside from differences in the levels of total employment in two employment series, the comparisons show large differences in the distribution of the total employment among major industry groups. The largest differences occur in agriculture, trade, services, and government with the OBERS-based projections being high for agriculture and government and low for trade and services. The annual rates of change also differ for the two series.

The OBERS-based employment projections are derived from the OBERS-E earnings projections series with later adjustments made of the projected employment in agriculture, mining, services and federal, state and local government. The BLS baseline series is the more recently prepared, and, hence, it incorporates the most recent shifts from public into private employment, particularly into the trade and service industries.

Differences in the 1975 and 1977 industry distribution of the employed work force occur because of the differential responses of individual industries to recovery from the 1975 recession. Also, differences occur in the definition and classification of the employed work force in several industry groups, namely, agriculture and the three governmental groups. Except for these four industry groups, the 1980

^{10/} The earnings per worker projection series is discussed in the second of the six reports in this series (see, ref. 9).

Table 3.1. Proportion of total employment and annual rate of change of specified industry employed work force, OBERS-based and BLS baseline projections, U.S., 1975-1990.

Industry No.	Title	Proportion of Total Work Force				Annual Rate of Change					
		OBERS-Based Projection ^{1/}		BLS Baseline Projections ^{2/}		OBERS-Based Projections ^{1/}		BLS Baseline ^{2/} Projections			
		1975	1980	1977	1980	1975-1980	1980-1990	1977-1980	1980-1990		
1.	Agriculture	5.137	4.429	3.182	3.426	3.221	2.556	-0.769	-2.335	0.893	-0.816
2.	Mining	0.864	0.877	0.806	0.923	0.976	0.900	2.523	-0.099	4.942	0.687
3.	Construction	4.679	4.932	4.909	4.973	4.956	4.823	3.049	0.899	2.877	1.229
4.	Manufacturing	19.955	21.118	20.112	21.121	20.934	20.039	3.386	0.455	2.687	1.062
5.	Trans., comm., util.	5.152	5.166	4.967	5.150	5.076	4.748	2.433	0.551	2.500	0.828
6.	Trade	21.510	21.092	20.589	22.255	22.750	22.957	1.820	0.703	3.752	1.601
7.	Fin., ins., real est.	5.023	5.144	5.629	5.203	5.176	5.618	2.712	1.860	3.818	2.341
8.	Services	19.730	19.159	21.594	19.766	20.587	23.191	1.622	2.162	4.401	1.128
9.	Fed. government	3.106	2.824	2.794	2.257	2.097	1.930	0.291	0.839	0.501	0.667
10.	State & local govt.	13.145	13.733	14.029	12.656	12.192	11.476	3.120	1.162	1.720	0.893
11.	Military	1.739	1.527	1.389	2.270	2.035	1.753	-0.414	0.000	-0.692	0.000
	Total or Average	100.000	100.000	100.000	100.000	100.000	100.000	2.221	0.947	2.994	1.505

^{1/} Based on industry employed work force in Table 2.6, Part I of this report.

^{2/} Based on industry employed work force in Table 2.7, Part I of this report.

and 1990 relative employment levels for the two series compare closely.

The annual rates of change in industry employment differ more sharply than the 11-industry distribution of the total employed work force. The differences in annual rates occur largely because of the projected difference in the total employed labor force. The BLS baseline projections show 1980 and 1990 total employment levels which are 99.4 percent and 105.1 percent, respectively, of the corresponding levels for the OBERS-based projections.

Differences in the 11-industry employment series are summarized by the ratio of the BLS baseline projections to the OBERS-based projections as follows:

<u>Industry</u>	<u>1977/75</u>	<u>1988</u>	<u>1990</u>
		(percent)	
Agriculture	67.7	72.4	84.4
Mining	108.5	112.7	117.4
Construction	107.9	99.9	103.2
Manufacturing	107.5	98.6	109.5
Tran., comm., util.	102.3	97.7	100.4
Trade	105.1	107.2	117.2
Fin., ins., real est.	105.2	100.0	104.9
Services	101.8	106.8	112.8
Federal govern.	73.8	73.9	72.6
State & local govern.	97.8	88.3	85.9
Military	132.6	132.6	132.6
Total	101.6	99.4	105.1

The summary data show that differences in industry definitions persist over the 15-year period, as in agriculture (in part), federal government and military, while differences in the underlying assumptions account for the changing relationships in the two series, as in agriculture (in part), mining, trade, services and state and local government. The Minnesota projections are evaluated with reference to both sets of U.S. projections.

Comparable data for the 15 manufacturing industries in Table 3.2 lack the large differences present in the comparison of the 11 major industry employment levels and trends. The 1975 to 1977 differences result largely from differences in general economic conditions and the upturn in total manufacturing from the 1975 recession. The 1980 projected totals are almost alike, but the 1990 projected totals differ significantly. Almost 10 percent more total manufacturing employment is indicated in the BLS baseline projections than in the OBERS-based projections. The industry distribution of total manufacturing employment differs even more in the two series. Large differences (of 8 percent or more in 1990) occur for specified manufacturing industries, as follows:

<u>Industry</u>	<u>1977/75</u>	<u>1980</u> (percent)	<u>1990</u>
Textile prod.	112.9	101.3	124.6
Apparel	103.9	111.8	115.1
Lumber & furn.	118.6	105.0	122.8
Paper products	99.0	88.4	92.0
Petroleum rel.	110.0	87.6	87.4
Mach., exc. elec.	106.5	97.0	110.5
Motor veh.	122.8	77.1	88.9

These differences in total industry employment are related, in part, to anticipated shifts in export trade, availability of raw materials, and domestic demand.

Statewide Forecasts

The OBERS-based Minnesota employment series is summarized for the 1970-2000 period in Table 3.3. This series is constructed from the OBERS-E projections cited earlier, adjusted to the current series of Minnesota county population projections. This series is comparable with

Table 3.2. Proportion of total manufacturing employment and annual rate of change of specified manufacturing industry employed work force, OBERS-
Based and BLS baseline projections, U.S., 1975-1990.

Industry No. Title	Proportion of Total Manufacturing						Annual Rate of Change			
	OBERS-Based 1/ Projections		BLS Baseline 2/ Projections		OBERS-Based 1/ Projections		BLS Baseline 2/ Projections			
	1975	1980	1990	1977	1980	1990	1975-1980	1980-1990	1977-1980	1980-1990
1. Food products	9.058	8.027	7.250	8.854	8.359	7.516	0.916	-0.563	0.734	-0.006
2. Textile products	4.735	4.527	3,761	4.974	4.654	4.476	2.462	-1.391	0.437	0.669
3. Apparel	6.783	5.858	5,930	6.556	6.648	6.578	0.396	0.580	3.153	0.959
4. Lumber & furn.	5.667	5.587	5,190	6.254	5.982	6.088	3.092	-0.283	1.010	1.291
5. Paper products	3.505	3.752	3,822	3.528	3.365	3.358	4.802	0.641	1.083	1.042
6. Print. & publ.	5.900	5.569	6,031	5.750	5.892	5.506	2.197	1.260	3.526	0.380
7. Chemicals	5.586	5.908	6.112	5.357	5.166	5.674	4.552	0.808	1.453	2.014
8. Petroleum prod.	1.029	0.995	0.903	1.053	0.884	0.754	2.693	-0.519	-3.127	-0.539
9. Primary metals	6.241	6.353	5.777	6.077	6.194	5.686	3.753	-0.495	3.342	0.210
10. Fabr. metals	7.969	8.247	8.714	8.199	8.424	8.589	4.096	1.010	3.617	1.258
11. Mach., exc. elec.	11.253	11.660	11.983	11.142	11.477	12.450	4.123	0.731	3.705	2.051
12. Elect. mach.	9.286	10.206	11.115	.781	10.202	10.594	5.357	1.317	4.137	1.444
13. Motor veh.	4.290	5.981	5.702	4.500	4.682	4.840	10.487	-0.023	4.052	1.400
14. Trans., eq. exc. mot.	4.990	5.353	4.931	4.631	4.933	4.987	4.849	-0.366	4.873	1.172
15. Misc. mfg.	13.707	11.977	12.772	13.344	13.171	12.704	0.632	1.104	2.240	0.698
Total or Average	100.000	100.000	100.000	100.000	100.000	100.000	3.386	0.455	2.687	1.062

1/ Based on industry employed work force in Table 2.6, Part I of this report.

2/ Based on industry employed work force in Table 2.7, Part I of this report.

TABLE 3.3. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY, Minnesota, 1970-2000.

INDUSTRY	ESTIMATED 1/				PROJECTED 2/			
	1970	1975	1980	1985	1990	2000	2020	
NO. TITLE	(number)							
1. AGRICULTURE, FOR., FISH.	152965.	177762.	116178.	99951.	91781.	80560.	59913.	
2. MINING	15317.	15020.	12945.	11908.	10911.	9751.	7524.	
3. CONSTRUCTION	77601.	77565.	105098.	109928.	112902.	122523.	126804.	
4. FOOD PROD.	48456.	47935.	57537.	54169.	50702.	46352.	36965.	
5. TEXTILE PROD.	2616.	2588.	3010.	2716.	2682.	2615.	2136.	
6. APPAREL	8450.	8359.	6760.	6778.	6397.	5950.	4839.	
7. LUMBER, FURN.	11414.	11291.	14648.	14631.	14652.	14710.	13193.	
8. PAPER PROD.	24853.	24586.	41238.	42702.	43917.	46872.	46503.	
9. PRINTING AND PUB.	32548.	32198.	25131.	27130.	28533.	31316.	32630.	
10. CHEMICALS	8497.	8406.	7017.	7091.	7174.	7947.	8716.	
11. PETROLEUM REFINING	2096.	2074.	2260.	2257.	2282.	2308.	2201.	
12. PRIMARY METALS	8146.	8058.	6694.	6646.	6281.	5776.	4638.	
13. FABRICATED METALS	28935.	28624.	31029.	33012.	33530.	35066.	34032.	
14. MACHINERY, EXC. ELEC.	66859.	66141.	90463.	99537.	106297.	116273.	119895.	
15. ELECTRICAL MACH.	22911.	22665.	32235.	36020.	38971.	45444.	53628.	
16. MOTOR VEHICLES	4875.	4823.	6547.	6385.	6528.	5916.	6955.	
17. TRANS., EXC. MOT. VEH.	8203.	8114.	7708.	8092.	8472.	8772.	8204.	
18. MISC. MANUFACTURING	41069.	40627.	44752.	48044.	50498.	55381.	55672.	
19. TRANS., COMM., UTIL.	87137.	93442.	98191.	98253.	101515.	109599.	113040.	
20. TRADE	361294.	425319.	440475.	455419.	475029.	514166.	510231.	
21. FIN., INS., REAL EST.	69590.	82224.	92735.	102360.	110538.	129111.	147809.	
22. SERVICES	288818.	352764.	387912.	410642.	444427.	498492.	606609.	
23. FEDERAL GOVERNMENT	31823.	29831.	31205.	32238.	34945.	37203.	45834.	
24. STATE AND LOCAL GOVT.	209710.	244959.	288762.	327530.	343885.	378362.	422678.	
25. MILITARY	4295.	2584.	3317.	3255.	3201.	3147.	2977.	
26. TOTAL EMPLOYMENT	1618088.	1817958.	1954847.	2046695.	2136053.	2314626.	2473746.	

1/ Based on unpublished data from U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, Washington, D.C., 1977.

2/ Based on total earnings projections from U.S. Water Resources Council, 1972 OBERS Projections, Regional Economic Activity in the U.S., Vol. I: Concepts, Methodology and Summary Data, U.S. Government Printing Office, Washington, D.C., 1972. Statewide projections were adjusted to current population projections prepared in the Minnesota Planning Agency.

the two U.S. employment series presented earlier in Tables 5.6 and 2.7 of Part I of this report.

The Minnesota OBERS-based employment series show an increase in total employed work force from 1,618,088 in 1970 to 2,136,053 in 1990 -- an annual rate of 1.3 percent. This compares with an annual rate of 2.4 percent for the 1970-1975 period.

Differential projected growth in Minnesota can be sorted into two industry groups -- commodity-producing and non-commodity producing. In the commodity-producing industry group, the projected annual growth from 1970 to 1990 is less than 0.5 percent. Even the most rapidly growing industry in this group, namely, construction, increased in employment at a below-average rate. The historical and projected employment growth rates are as follows:

<u>Commodity Producing Industry</u>	<u>OBERS-Based</u>		<u>New Baseline as Proportion of OBERS-Based 1990</u>
	<u>Projected 1970-1975</u>	<u>Estimated 1970-1990 (percent)</u>	
Agr., for., fish.	3.050	-2.522	107.5
Mining	-0.391	-1.682	102.1
Construction	0.068	1.912	90.4
Manufacturing	-0.216	1.210	105.7
Average	0.743	0.481	103.1

An alternate OBERS-Baseline Series for Minnesota was derived from the U.S. OBERS Baseline Series, in Table 2.7, Part I of this report for comparison with the OBERS Baseline Series (see, Appendix A). The two series differ primarily in the higher levels of employment projected for the commodity-producing industries except construction, as shown in the preceding comparison.

Employment growth in the commodity-producing industries exceeds the total industry average in both the historical and projected periods in four of the seven industries as follows:

<u>Industry</u>	<u>1970-1975</u>	<u>1970-2000</u> (percent)	<u>New Baseline</u> <u>as Proportion of</u> <u>OBERS-Based</u> <u>1990</u>
Trans., comm., util.	1.407	0.762	102.9
Trade	3.317	1.378	102.1
Fin., ins., real est.	3.420	2.347	99.9
Services	4.081	2.178	104.2
Federal government	-1.285	0.469	104.8
State & local govern.	3.156	2.504	101.3
Military	-9.663	-1.459	102.6
Average	3.183	1.833	102.6

Unlike the BLS baseline projections cited earlier, both the Minnesota OBERS-based projections and the alternate series show an above-average growth in state and local government. Need for further analysis of government employment trends and prospects in Minnesota is indicated by such differences in projected employment levels.

Because of the more rapid growth in non-commodity-producing than commodity-producing employment, the ratio of total employment to commodity-producing is projected to increase, also. This ratio is sometimes viewed as an employment "multiplier" insofar as commodity-producing employment is "basic", or "export-producing" and non-commodity-producing employment is "dependent", or "residential". If this dichotomy were to hold empirically, a causal relationship would be established for forecast purposes. If commodity-producing employment were more readily forecast than the non-commodity employment, industry-by-industry, then the stable relationship between the two employment groups could be

used in making aggregate employment forecasts, given the forecast equation,

$$\text{empr}_n = (1+r)^n * m_o * \sum_{i=1}^4 \text{emp}_{in} \quad \text{Eq. (3.1)}$$

where, empr_n = total employment in all industries in n-th year

emp_{in} = total employment in the i-th industry (with $i=1, \dots, 4$ being the commodity-producing industries) in n-th year

m_o = commodity-producing employment multiplier in base year, with $t = 0$

r = annual rate of change in multiplier, m_o .

Derivation of the employment multiplier and the annual rate of change in the multiplier yields a series for the 1970-1990 period, as follows:

Year	Multiplier		Annual Rate	
	U.S.	Minn.	U.S.	Minn.
1970	2.972	2.861	----	----
1975	3.264	3.098	1.892	1.604
1990	3.658	3.431	0.763	0.681

These results confirm the general rule that the larger the area, the larger the multiplier. They also show a larger annual rate of increase for the U.S. than Minnesota. Thus, while non-commodity-producing employment in Minnesota is growing rapidly, it is growing less rapidly than in the nation as a whole, relative to the growth in commodity-producing employment. If the projected levels of commodity-producing employment are attained, a high probability exists that the projected levels of non-commodity-producing employment will be attained, and ever exceeded, by 1990.

Substate Forecasts

The statewide forecasts can be allocated to the 13 substate development regions by use of the shift-and-share forecast method. In this study, however, both the statewide and substate forecast are developed from county-level forecasts, which were derived from the OBERS-E projections for water resource subareas, adjusted to the current county-level Minnesota population projections. The substate forecast series are presented in Appendix B of this report.

EARNINGS AND INCOME FORECASTS

The earnings forecasts are obtained directly from U.S. Water Resources Council 1972 OBERS-E projections (27). However, the total earnings in agriculture, mining, trade, service and government employment were adjusted as indicated in the footnotes to table 2.6 in Part I of this report.

Trends and Assumptions

Trends and assumptions for the U.S. OBER-E projection series are discussed in a related report in this series (9). In this report the assumptions used in the preparation of the U.S. OBERS-E projections are discussed and the annual rates of change in selected employment series are compared.

Both the BLS and the OBERS-E projections are based on assumed rates of economic growth which are sharply reduced from the corresponding historical levels (Table 4.1). The OBERS-E rates of change (for Table 2.6 in Part I) compare closely with the BLS rates of change (for Table 2.7 in Part I), except for GNP per hour. The lower GNP per hour in the BLS projections is the result of a lower total GNP and a larger employed work force than assumed by the OBERS-E projections.

The OBERS-E and the BLS series are compared also with reference to annual rates of change in output per hour, hours worked and earnings per hour for each of the 25 industries (Table 4.2). While the overall levels of the three series are in general agreement, individual industry comparisons show wide differences, particularly between the estimated average annual change in output per hour for the 1958-1977 period and the projected annual rate of change in earnings per worker for the 1980-1990 period. Earnings per worker in non-commodity-producing industries generally are

Table 4.1. Estimated and projected annual rates of change for specified economic indicators from OBERS-E and BLS series projections, U.S., 1958-2020.

Economic Indicator	Annual Average Rate of Change ^{1/}				Annual Rate of Increase ^{2/}	
	Estimated		Projected		Estimated	Projected
	1968-1973	1973-1977	1977-1980	1980-1985	1958-1971	1971-2020
Labor force, inc. military	2.0	2.3	2.1	1.6	1.5	0.9
Unemployed, total	8.3	13.0	-5.8	-1.5	---	---
Employed (persons), total	1.8	1.7	2.7	1.8	---	---
Employed (jobs), total	1.7	1.3	2.8	1.9	1.5 ^{3/}	1.0 ^{3/}
General government	0.9	1.5	1.2	0.9	3.8 ^{3/}	1.4 ^{3/}
Private, total	1.9	1.3	3.1	2.0	1.1 ^{3/}	0.9 ^{3/}
Agriculture	-2.6	-2.3	0.6	-0.4	---	---
Non-agriculture	2.1	1.4	3.1	2.1	---	---
GNP, total	3.3	1.9	4.3	3.6	3.6	3.4
Government	1.1	1.5	1.6	1.1	3.2	1.2
Private	3.6	2.0	4.6	3.9	3.6	3.5
Agriculture	1.9	1.6	3.2	2.2	---	---
Non-agriculture	3.6	2.0	4.6	3.9	---	---
Private annual hours per job	-0.4	-0.6	-1.0	-0.5	-0.5 ^{3/}	-0.4 ^{3/}
Agriculture	-0.6	0.2	-3.0	-0.3	---	---
Non-agriculture	-0.4	-0.5	1.8	2.2	---	---
Private GNP per hour	2.1	1.3	1.8	2.2	3.0 ^{3/}	2.9 ^{3/}
Agriculture	5.2	3.8	3.9	3.1	---	---
Non-agriculture	1.9	1.1	1.7	2.1	---	---

^{1/} Norman C. Saunders, The U.S. Economy to 1990: Two Projections for Growth, Monthly Labor Review, 101: 25-35, December, 1978.

^{2/} U.S. Water Resources Council, 1972 OBERS Projections, Regional Economic Activity in the U.S., Vol. I: Concepts, Methodology and Summary Data, U.S. Government Printing Office, Washington, D.C., 1972.

^{3/} Civilian employment, persons concept.

Table 4.2. Estimated and projected annual rate of change of output per hour, hours per week, and earnings per worker, U.S., 1958-1985.

Industry No. Title	Annual Change		
	Output per Hour 1958-1977 ^{1/}	Hours Worked per Week 1958-1977 ^{1/}	Earnings per week 1980-1985 ^{2/}
(percent)			
1. Agriculture, for., fish.	5.29	-0.27	3.87
2. Mining	2.91	0.17	2.36
3. Construction	0.07	-0.18	2.12
4. Food prod.	3.25	-0.08	2.23
5. Textile prod.	3.87	0.01	4.26
6. Apparel	3.11	-0.10	1.15
7. Lumber, furn.	2.70	-0.05	2.68
8. Paper prod.	3.36	-0.03	2.32
9. Printing & pub.	2.62	-0.12	1.70
10. Chemicals	5.00	0.02	2.90
11. Petroleum refining	4.90	0.10	2.82
12. Primary metals	2.29	0.15	1.40
13. Fabricated metals	1.87	-0.01	1.46
14. Machinery, exc. elec.	2.50	0.04	1.70
15. Electrical mach.	3.44	-0.02	2.64
16. Motor vehicles	3.60	0.10	3.52
17. Trans., exc. mot. veh.	3.52	-0.17	2.34
18. Misc. manufacturing	3.10	0.00	2.02
19. Trans., comm., util.			
20. Trade	2.64	-0.88	3.05
21. Fin., ins., real est.	1.81	-0.16	1.31
22. Services	1.45	-0.59	3.27
23. Federal Government	0.40 ^{3/}	-0.20	1.09
24. State & local govern.	0.96 ^{3/}	-0.30	1.48
25. Military	-----	-----	2.44
Total or average	2.65	-0.38	2.43

^{1/} U.S. Bureau of Labor Statistics, Time Series data for input-output industries, Bulletin 2018, U.S. Government Printing Office, Washington, D.C., March 1979.

^{2/} Based on data series reported, in part, in Appendix A.

^{3/} Government enterprises only.

projected to increase at faster rates than the corresponding output per hour. However, for 16 of the 18 commodity-producing industries, the average annual increase in output per hour is greater than the annual rate of change in earnings per worker, even when taking into account the declining number of hours worker per week. Thus, the higher projected employed work force levels in the BLS series are generally consistent with the underlying demand and output assumptions of the OBERS-E projections that affect the preparation of the corresponding Minnesota OBERS-based earnings and income projections.

Statewide Forecasts

Statewide forecasts of total earnings of the employed work force in Minnesota and total personal income of Minnesota residents are presented in Table 4.3. This forecast series is derived directly from the OBERS-E projection, adjusted to the industry employed work force levels in Table 3.3. Additional discussion on the derivation of the earnings per worker projections which are consistent with both the total earnings and total employment projections is included in the related report on income trends and projections (9).

Substate Forecasts

Earnings and income forecasts for the 13 substate development regions are included in Appendix C of this report. The substate projections were obtained by compiling the individual county-level forecasts in the computer data base for the multi-county regions.

TABLE 4.3. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY, Minnesota, 1970-2020.

INDUSTRY NO. TITLE	ESTIMATED					PROJECTED				
	1970	1975	1980	1985	1990	2000	2020			
(VALUE IN THOUSANDS OF 1967 DOLLARS)										
1. AGRICULTURE, FOR., FISH.	805446.	992964.	743032.	773205.	902125.	889033.	1121054.			
2. MINING	132844.	151871.	146567.	151695.	156346.	172319.	216852.			
3. CONSTRUCTION	711681.	663241.	1070905.	1244197.	1441203.	1912503.	3101992.			
4. FOOD PROD.	433717.	408640.	526298.	553468.	580327.	659084.	865923.			
5. TEXTILE PROD.	15465.	15307.	20486.	22779.	25248.	30761.	43854.			
6. APPAREL	36561.	35240.	46217.	49092.	52051.	60658.	83712.			
7. LUMBER, FURN.	72036.	76380.	107278.	122338.	139158.	177541.	273528.			
8. PAPER PROD.	286284.	301640.	421889.	490138.	567605.	751652.	1228644.			
9. PRINTING AND PUB.	1842299.	193194.	269285.	316450.	370764.	502621.	852451.			
10. CHEMICALS	55163.	59757.	85110.	99265.	115463.	157128.	269811.			
11. PETROLEUM REFINING	26451.	26264.	35232.	40452.	46224.	58674.	89658.			
12. PRIMARY METALS	61781.	55685.	69078.	73540.	77882.	89580.	116045.			
13. FARRICATED METALS	244223.	247078.	335987.	384492.	438838.	570409.	910241.			
14. MACHINERY, EXC. ELEC.	562081.	611272.	872776.	1044981.	1247372.	1685877.	2818895.			
15. ELECTRICAL MACH.	233326.	258922.	374386.	462352.	569062.	833017.	1576035.			
16. MOTOR VEHICLES	53597.	56001.	77886.	90330.	104490.	138520.	226050.			
17. TRANS., EXC. MOT. VEH.	40367.	49946.	76797.	90526.	106432.	136521.	209141.			
18. MISC. MANUFACTURING	318911.	341068.	481763.	571828.	676757.	925111.	1583561.			
19. TRANS., COMM., UTIL.	749299.	865759.	1081098.	1257551.	1458392.	1951714.	3265793.			
20. TRADE	1927603.	2155989.	2707495.	3139654.	3629470.	4882275.	8157142.			
21. FIN., INS., REAL EST.	518589.	573746.	845758.	1029075.	1248344.	1808922.	3399026.			
22. SERVICES	1474080.	1672821.	2715115.	3377851.	4189210.	6282568.	12351015.			
23. FEDERAL GOVERNMENT	262659.	286117.	389330.	468440.	561779.	780515.	1492602.			
24. STATE AND LOCAL GOVT.	1173631.	1437310.	1937148.	2365075.	2878619.	4176954.	7696122.			
25. MILITARY	71141.	60322.	72146.	79922.	88370.	108423.	163561.			
26. TOTAL EMPLOYMENT	1618088.	1817958.	1954847.	2046695.	2136053.	2314626.	2473746.			
27. POPULATION	3815000.	3923026.	4076780.	4252186.	4421496.	4652801.	5106994.			
28. TOTAL INCOME	13027723.	14964658.	19526860.	23192715.	27461616.	38200971.	67607302.			
29. TOTAL EARNING	10451004.	11596535.	15509063.	18298696.	21571532.	29741488.	52118710.			
30. TOTAL EMP (BY RESIDENT)	1494408.	1679001.	1805425.	1890253.	1972781.	2137704.	2284661.			

TABLE A.1. ESTIMATED AND PROJECTED TOTAL EMPLOYED WORK FORCE IN SPECIFIED INDUSTRY,
MINNESOTA, 1970-2020, New Baseline Series.

INDUSTRY	ESTIMATED										PROJECTED				
	1970	1971	1972	1973	1974	1975	1980	1985	1990	2000	2020				
NO.	(number)														
1	15292.	15413.	152492.	158496.	172277.	177789.	122647.	106548.	98653.	86893.	66971.				
2	15496.	14835.	13956.	14705.	14931.	15058.	13011.	12069.	11142.	9970.	7955.				
3	78490.	77755.	80543.	82587.	81067.	78214.	93555.	98670.	102109.	110950.	118738.				
4	55082.	54781.	52598.	51054.	50129.	48019.	54373.	51616.	48680.	44559.	36746.				
5	2692.	2351.	3090.	3275.	3105.	2670.	2892.	2631.	2618.	2556.	2220.				
6	8370.	7738.	7607.	9040.	8464.	7494.	7454.	7535.	7167.	6585.	5613.				
7	10855.	11710.	13749.	14816.	14110.	12460.	14160.	14262.	14391.	14466.	13416.				
8	31468.	30352.	29972.	32179.	33531.	30913.	37291.	38936.	40349.	43117.	44235.				
9	24173.	24030.	25567.	26470.	26620.	26566.	26427.	28767.	30485.	33500.	36094.				
10	6599.	6137.	6641.	6016.	6591.	6275.	8389.	8803.	8715.	9666.	10962.				
11	2032.	2212.	1950.	1780.	2126.	1654.	2448.	2465.	2512.	2543.	2507.				
12	7156.	6517.	5593.	6395.	6305.	5461.	7448.	7457.	7100.	6538.	5426.				
13	32676.	29763.	31324.	33514.	34093.	31600.	41477.	44495.	45537.	47683.	47938.				
14	64990.	58751.	60905.	64251.	72372.	65417.	96398.	106951.	115082.	126042.	134395.				
15	28382.	23521.	24012.	2349.	28670.	27856.	33432.	36427.	39710.	46365.	56579.				
16	4814.	4769.	5321.	5926.	5304.	5801.	7388.	7266.	7485.	7941.	8257.				
17	5839.	6737.	7004.	6398.	6362.	5997.	9023.	9551.	10076.	10446.	10102.				
18	37610.	34486.	39770.	41978.	41260.	38254.	44842.	47914.	50136.	54099.	51322.				
19	87942.	87252.	90462.	94181.	95303.	93584.	99405.	100297.	104414.	112871.	120380.				
20	363397.	369076.	391257.	409327.	422701.	429898.	442632.	461463.	484990.	525610.	539354.				
21	70073.	72170.	75677.	74219.	80685.	82737.	91165.	101459.	110398.	129110.	152845.				
22	281130.	284510.	317320.	326690.	339175.	347749.	372821.	415268.	463200.	536576.	718449.				
23	31823.	30866.	30338.	29094.	29508.	29898.	33803.	34851.	37668.	40398.	48407.				
24	209708.	222494.	227416.	237156.	236091.	245106.	303690.	334399.	348220.	353289.	381726.				
25	4235.	3727.	3023.	2763.	2695.	2586.	3349.	3314.	3284.	3233.	3162.				
26	1618089.	1621703.	1697533.	1770659.	1814481.	1819056.	1969419.	2083414.	2194120.	2365506.	2623799.				

TABLE A.2. ESTIMATED AND PROJECTED TOTAL EARNINGS (in 1967 dollars) OF EMPLOYED WORK FORCE IN SPECIFIED INDUSTRY, MINNESOTA, 1970-2020.

INDUSTRY	ESTIMATED										PROJECTED				
	1970	1971	1972	1973	1974	1975	1980	1985	1990	2000	2020				
1 AGR., FOR., FISH.	805417.	686043.	810398.	10883682.	13328670.	993569.	968500.	1017300.	1067800.	1213200.	1566700.				
2 MINING	132844.	125873.	128439.	137260.	136741.	151965.	148200.	154500.	161000.	181500.	233400.				
3 CONSTRUCTION	711681.	741735.	711157.	727382.	637408.	663646.	1092000.	1267200.	1484100.	2014400.	3338700.				
4 FOOD PROD.	438137.	437582.	433666.	422284.	419798.	402802.	531000.	563700.	597600.	694200.	932000.				
5 TEXTILE PROD.	16092.	16455.	18094.	20041.	18564.	16285.	20700.	23200.	26000.	32400.	47200.				
6 APPAREL	37815.	36076.	39472.	43220.	46135.	37182.	46700.	50000.	53600.	63900.	90100.				
7 LUMBER	71247.	78344.	90270.	93726.	95251.	85823.	108400.	124600.	143300.	167000.	294400.				
8 PAPER PROD.	294822.	288941.	327290.	349080.	346038.	340506.	426300.	499200.	584500.	791700.	1322400.				
9 PRINTING.	187139.	187585.	205933.	210359.	207187.	213428.	272100.	322300.	381800.	529400.	917500.				
10 CHEMICAL PROD.	53258.	52634.	58805.	53478.	59064.	56417.	86000.	104100.	118980.	165500.	290400.				
11 PETRO PROD.	19837.	19519.	19574.	17756.	18009.	16059.	35600.	41200.	47600.	61800.	96500.				
12 PRIMARY METAL.	58689.	54612.	51875.	54628.	62319.	49430.	69800.	74900.	80200.	93300.	124900.				
13 FABR. METALS	245565.	226060.	248045.	264952.	257706.	257706.	339500.	391600.	451900.	600800.	979700.				
14 MACHINERY	560073.	527037.	572864.	644526.	646502.	605899.	881900.	1064300.	1284500.	1775700.	3034000.				
15 ELECTRICAL	238036.	194408.	205306.	242796.	263841.	244840.	378300.	470900.	586000.	877400.	1696300.				
16 MOTOR VEHICLE.	42374.	42254.	47992.	52337.	52158.	51336.	78700.	92000.	107600.	145900.	243300.				
17 TRANSPORTATION-E	39538.	45947.	48635.	47580.	40375.	38126.	77600.	92200.	109600.	143900.	225100.				
18 OTHER MFG.	321640.	304451.	328924.	339045.	346002.	336326.	556600.	657300.	777100.	1067700.	1704400.				
19 TR., COM., UTIL.	749298.	782684.	850035.	919900.	896330.	866286.	1092400.	1280800.	1501800.	2055700.	3515000.				
20 TRADE	1927601.	1975164.	1995161.	2106059.	2154185.	2157301.	2735800.	3197700.	3737500.	5142400.	8779600.				
21 FIN., INS., REAL E	518589.	550700.	571018.	574602.	559182.	574095.	854650.	1048100.	1285500.	1905300.	3658400.				
22 SERVICES	1474079.	1477605.	1534090.	1621791.	1653316.	1673838.	2525800.	3305100.	4239100.	6712200.	143337300.				
23 FEDERAL GOV.	262659.	267527.	277738.	280071.	281537.	286292.	333400.	472200.	566600.	810100.	1489000.				
24 STATE, LOCAL.	1175662.	1276998.	1399184.	1451850.	1393617.	1438186.	1957400.	2319100.	2809200.	3839700.	6762000.				
25 MILITARY	71142.	68991.	68585.	68086.	64257.	60359.	72900.	81400.	91000.	114200.	182500.				
26 TOTAL	10451204.	10465625.	11042550.	12652801.	12044322.	11603596.	15741050.	18714900.	22293800.	31219300.	55860800.				

(THOUSAND DOLLARS)

TABLE A.3. ESTIMATED AND PROJECTED TOTAL EARNINGS PER EMPLOYED WORKER IN SPECIFIED INDUSTRY,
MINNESOTA, 1970-2020.

INDUSTRY	ESTIMATED										PROJECTED				
	1970	1971	1972	1973	1974	1975	1980	1985	1990	2000	2020				
1 AGR., FOR., FISH.	5264.	4450.	5314.	11923.	7712.	5588.	7897.	9548.	10824.	13962.	23394.				
2 MINING	8573.	8485.	9203.	9334.	9158.	10092.	11390.	12802.	14450.	18205.	29342.				
3 CONSTRUCTION	9067.	9539.	8830.	8829.	8603.	8485.	11565.	12843.	14534.	18156.	28118.				
4 FOOD PROD.	7954.	7988.	8245.	4271.	8374.	8388.	9781.	10921.	12276.	15579.	25363.				
5 TEXTILE PROD.	5978.	5772.	5856.	6242.	5979.	6099.	7157.	8816.	9932.	12674.	21264.				
6 APPAREL	4518.	4662.	5189.	5445.	5453.	4962.	6265.	6635.	7479.	9559.	16052.				
7 LUMBER	6564.	6590.	6566.	6731.	6751.	6888.	7655.	8736.	9958.	12926.	21944.				
8 PAPER PROD.	9369.	9365.	10920.	10388.	10383.	11015.	11432.	12421.	14486.	18362.	29895.				
9 PRINTING.	7742.	7806.	8055.	7355.	7783.	8034.	10296.	11204.	12524.	15803.	25419.				
10 CHEMICAL PROD.	8071.	8577.	8855.	8390.	8361.	8991.	10251.	11826.	13644.	17122.	26432.				
11 PETRO PROD.	9762.	8824.	10007.	9375.	8471.	9709.	14542.	16714.	18952.	24299.	38485.				
12 PRIMARY METAL.	8201.	8380.	9275.	9324.	9884.	9051.	9372.	10045.	11296.	14271.	23009.				
13 FABR. METALS	7515.	7595.	7919.	7833.	7561.	7709.	8185.	8801.	9924.	12600.	20437.				
14 MACHINERY	8618.	8971.	9406.	9487.	8860.	9262.	9149.	9951.	11162.	14088.	22575.				
15 ELECTRICAL	8387.	8282.	8550.	8369.	9203.	8789.	11349.	12927.	14757.	18924.	29981.				
16 MOTOR VEHICLE.	8602.	8360.	9019.	8632.	8834.	8850.	10652.	12662.	14376.	18374.	29465.				
17 TRANSPORTATION-E	6771.	5820.	6944.	6799.	6346.	6358.	8600.	9654.	10877.	13776.	22284.				
18 OTHER MFG.	8552.	8828.	8271.	6077.	8386.	8792.	12413.	13718.	15500.	19736.	33210.				
19 TR., COM., UTIL.	8520.	8970.	9397.	3653.	9404.	9257.	10489.	12770.	14383.	18213.	29199.				
20 TRADE	5304.	5352.	5099.	5139.	5096.	5018.	6181.	6929.	7706.	9784.	16278.				
21 FIN., INS., REAL E	7400.	7631.	7545.	7253.	6330.	6939.	9375.	10330.	11644.	14757.	23936.				
22 SERVICES	5243.	5194.	4835.	4964.	4875.	4813.	6775.	7959.	9152.	12500.	19958.				
23 FEDERAL GOV.	8254.	8667.	9155.	9626.	9541.	9576.	11638.	13549.	15042.	20053.	30760.				
24 STATE, LOCAL.	5597.	5739.	6153.	6119.	5903.	5868.	6445.	6935.	8067.	10868.	17714.				
25 MILITARY	16564.	18511.	22688.	24642.	23843.	23341.	21768.	24560.	27709.	35323.	57712.				
26 TOTAL	6459.	6453.	6505.	7146.	6638.	6379.	8030.	9056.	10266.	13361.	21621.				

(DOLLARS)

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TABLE B.1. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY 1970-2020
 REGION 1 , MINNESOTA

INDUSTRY NO.	TITLE	ESTIMATED					PROJECTED				
		1970	1975	1980	1985	1990	2000	2020			
1.	AGRICULTURE, FOR., FISH.	13148.	16393.	13267.	11489.	10582.	9388.	7094.			
2.	MINING	887.	954.	26.	12.	21.	23.	18.			
3.	CONSTRUCTION	1115.	1199.	1065.	1137.	1171.	1264.	1279.			
4.	FOOD PROD.	1054.	1067.	1159.	1195.	1201.	1209.	1258.			
5.	TEXTILE PROD.	16.	16.	3.	4.	3.	3.	2.			
6.	APPAREL	47.	36.	42.	48.	50.	56.	52.			
7.	LUMBER, FURN.	474.	458.	744.	854.	954.	1095.	1093.			
8.	PAPER PROD.	17.	18.	1.	2.	1.	1.	0.			
9.	PRINTING AND PUB.	237.	222.	104.	118.	128.	147.	154.			
10.	CHEMICALS	50.	47.	64.	72.	80.	104.	131.			
11.	PETROLEUM REFINING	0	0	0	0	0	0	0			
12.	PRIMARY METALS	3.	4.	5.	8.	7.	7.	5.			
13.	FABRICATED METALS	15.	14.	14.	18.	20.	23.	25.			
14.	MACHINERY, EXC. ELEC.	909.	846.	513.	612.	700.	857.	946.			
15.	ELECTRICAL MACH.	8.	10.	6.	6.	6.	7.	5.			
16.	MOTOR VEHICLES	25.	104.	101.	109.	121.	138.	154.			
17.	TRANS., EXC. MOT. VEH.	1693.	1225.	3652.	3976.	4276.	4614.	4443.			
18.	MISC. MANUFACTURING	173.	165.	190.	227.	263.	339.	383.			
19.	TRANS., COMM., UTIL.	1174.	1435.	1447.	1505.	1589.	1838.	1967.			
20.	TRAD.	5491.	8539.	8223.	8527.	8772.	9336.	8754.			
21.	FIN., INS., REAL EST.	497.	936.	983.	1121.	1228.	1462.	1634.			
22.	SERVICES	6122.	6820.	6472.	6950.	7512.	8403.	8905.			
23.	FEDERAL GOVERNMENT	579.	536.	501.	519.	557.	530.	662.			
24.	STATE AND LOCAL GOVT.	5513.	6207.	6761.	7739.	8064.	8795.	9749.			
25.	MILITARY	45.	29.	29.	30.	30.	30.	30.			
26.	TOTAL EMPLOYMENT	39293.	47250.	45368.	46279.	47338.	49658.	49546.			
27.	POPULATION	94826.	97348.	96495.	98235.	98976.	97797.	96638.			
28.	TOTAL INCOME	251961.	328432.	327025.	386283.	+51230.	513521.	5040872.			
29.	TOTAL EARNING	184253.	238291.	245451.	291436.	3+3638.	473286.	800731.			
30.	TOTAL EMP(HY RESIDENT)	32399.	39150.	38436.	39245.	40084.	41826.	41551.			

DATE : 79/10/34.

(BY STATE POPULATION PROJECTIONS)

TABLE B.2. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY 1970-2020
 REGION 2 , MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED				
	1970	1975	1980	1985	1990	1995	2000	2005	2010	2020
1.AGRICULTURE, FOR., FISH.	3599.	4024.	2784.	2442.	2275.	2128.	1634.			
2.MINING	2.	21.	13.	6.	11.	12.	11.			
3.CONSTRUCTION	973.	993.	959.	1063.	1135.	1372.	1414.			
4.FOOD PKOD.	110.	122.	136.	138.	138.	143.	115.			
5.TEXTILE PROD.	26.	22.	55.	55.	58.	73.	60.			
6.APPAREL	109.	101.	92.	96.	93.	99.	74.			
7.LUMBER, FURN.	554.	502.	665.	758.	843.	997.	1026.			
8.PAPER PROD.	16.	16.	19.	22.	23.	30.	28.			
9.PRINTING AND PUB.	100.	96.	40.	45.	50.	58.	62.			
10.CHEMICALS	72.	49.	127.	157.	180.	242.	328.			
11.PETROLEUM REFINING	6.	6.	1.	1.	1.	0.	0.			
12.PRIMARY METALS	0	0	0	0	0	0	0			
13.FABRICATED METALS	23.	18.	18.	22.	25.	31.	33.			
14.MACHINERY, EXC. ELEC.	23.	26.	24.	27.	30.	38.	36.			
15.ELECTRICAL MACH.	23.	20.	14.	16.	16.	20.	19.			
16.MOTOR VEHICLES	0	0	0	0	0	0	0			
17.TRANS., EXC. MOT. VEH.	31.	32.	81.	87.	92.	97.	90.			
18.MISC. MANUFACTURING	57.	47.	36.	39.	44.	53.	57.			
19.TRANS., COMM., UTIL.	656.	835.	858.	917.	998.	1234.	1372.			
20.TRADE	3015.	4530.	4557.	4872.	5180.	6000.	5774.			
21.FIN., INS., REAL EST.	469.	446.	549.	639.	720.	942.	1040.			
22.SERVICES	2637.	3727.	3840.	4213.	4673.	5662.	6616.			
23.FEDERAL GOVERNMENT	502.	595.	591.	637.	712.	813.	993.			
24.STATE AND LOCAL GOVT.	4034.	4787.	5488.	6454.	6932.	8204.	9262.			
25.MILITARY	101.	70.	106.	108.	120.	128.	135.			
26.TOTAL EMPLOYMENT	17223.	21073.	21054.	22815.	24347.	28378.	30175.			
27.POPULATION	54737.	60046.	60765.	64183.	66924.	72785.	74586.			
28.TOTAL INCOME	101789.	129190.	139233.	170494.	206110.	308288.	534954.			
29.TOTAL EARNING	69631.	81703.	105746.	132178.	163537.	253203.	464277.			
30.TOTAL EMP(BY RESIDENT)	17955.	22052.	22003.	23858.	25436.	29544.	31680.			

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TABLE B.3. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY 1970-2020
REGION 3 , MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED				
	1970	1975	1980	1985	1990	2000	2020			
1.AGRICULTURE, FOR., FISH.	4026.	4267.	844.	705.	626.	534.	394.			
2.MINING	13493.	14717.	10939.	9964.	9109.	9095.	6293.			
3.CONSTRUCTION	5155.	8200.	8406.	8465.	8316.	8496.	8230.			
4.FOOD PRD.	1829.	1394.	1785.	1653.	1546.	1402.	1683.			
5.TEXTILE PRD.	217.	166.	154.	136.	133.	132.	137.			
6.APPAREL	1269.	344.	1007.	1090.	1121.	1150.	1054.			
7.LUMBER, FURN.	2327.	2184.	2370.	2302.	2261.	2232.	1989.			
8.PAPER PRD.	5335.	5247.	8644.	8909.	9051.	9220.	8671.			
9.PRINTING AND PUB.	1900.	1517.	1409.	1514.	1590.	1723.	1724.			
10.CHEMICALS	332.	252.	266.	248.	237.	240.	218.			
11.PETROLEUM REFINING	118.	97.	185.	158.	206.	197.	201.			
12.PRIMARY METALS	2462.	1880.	2381.	2303.	2113.	1878.	1434.			
13.FABRICATED METALS	1145.	881.	1773.	1894.	1922.	1966.	1826.			
14.MACHINERY, EXC. ELEC.	1003.	773.	1085.	1088.	1064.	1021.	828.			
15.ELECTRICAL MACH.	305.	229.	701.	708.	682.	631.	395.			
16.MOTOR VEHICLES	41.	31.	171.	176.	201.	233.	248.			
17.TRANS., EXC. MOT. VEH.	167.	135.	151.	126.	125.	117.	105.			
18.MISC. MANUFACTURING	1103.	944.	1671.	1662.	1618.	1565.	1370.			
19.TRANS., COMM., UTIL.	7241.	8218.	8033.	7795.	7826.	8137.	7935.			
20.TRADE	23095.	28743.	27123.	27016.	27194.	27880.	25171.			
21.FIN., INS., REAL EST.	2980.	4208.	4737.	5164.	5498.	6249.	6507.			
22.SERVICES	21946.	24574.	29074.	29988.	31644.	34469.	39529.			
23.FEDERAL GOVERNMENT	2846.	2704.	2818.	2849.	3028.	3162.	3688.			
24.STATE AND LOCAL GOVT.	20311.	22188.	25348.	27990.	28815.	30916.	34606.			
25.MILITARY	2574.	1393.	1788.	1781.	1774.	1731.	1720.			
26.TOTAL EMPLOYMENT	123220.	135886.	142746.	145683.	147702.	153427.	155325.			
27.POPULATION	330463.	329011.	330295.	332554.	332354.	325409.	326331.			
28.TOTAL INCOME	955833.	1115025.	1371005.	1590236.	1836349.	2454703.	4155997.			
29.TOTAL EARNING	750490.	850620.	1037936.	1203853.	1402519.	1911687.	3364690.			
30.TOTAL EMP(9Y RESIDENT)	114344.	126269.	131003.	133278.	134469.	138140.	139863.			

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(9Y STATE POPULATION PROJECTIONS)

TABLE B.4. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY 1970-2020
REGION 4 , MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED				
	NO.	TITLE	1970	1975	1980	1985	1990	2000	2020	
1.	AGRICULTURE, FOR., FISH.	17677.	20372.	17682.	15396.	14221.	12809.	9748.		
2.	MINING	1092.	1400.	44.	65.	45.	40.	52.		
3.	CONSTRUCTION	3834.	4351.	3975.	4254.	4397.	4858.	4921.		
4.	FOOD PROD.	1839.	2029.	2023.	2068.	2064.	2088.	1744.		
5.	TEXTILE PROD.	21.	55.	11.	12.	10.	11.	10.		
6.	APPAREL	210.	239.	271.	310.	323.	350.	333.		
7.	LUMBER, FURN.	274.	312.	457.	519.	574.	654.	656.		
8.	PAPER PROD.	48.	52.	53.	64.	73.	98.	109.		
9.	PRINTING AND PUB.	585.	644.	305.	351.	384.	457.	495.		
10.	CHEMICALS	55.	57.	59.	67.	75.	103.	127.		
11.	PETROLEUM REFINING	0	0	0	0	0	0	0		
12.	PRIMARY METALS	51.	72.	40.	49.	47.	54.	48.		
13.	FABRICATED METALS	239.	277.	279.	345.	395.	468.	522.		
14.	MACHINERY, EXC. ELEC.	337.	377.	328.	382.	423.	494.	521.		
15.	ELECTRICAL MACH.	57.	61.	22.	25.	25.	30.	30.		
16.	MOTOR VEHICLES	16.	22.	19.	21.	23.	27.	31.		
17.	TRANS., EXC. MOT. VEH.	357.	390.	846.	894.	939.	971.	904.		
18.	MISC. MANUFACTURING	794.	806.	788.	910.	1016.	1245.	1339.		
19.	TRANS., COMM., UTIL.	3320.	4071.	3985.	4141.	4375.	5010.	5317.		
20.	TRADE	12520.	16586.	16053.	16861.	17584.	19402.	18831.		
21.	FIN., INS., REAL EST.	1444.	1925.	1986.	2284.	2526.	3100.	3527.		
22.	SERVICES	9867.	13407.	12751.	13831.	15113.	17429.	20771.		
23.	FEDERAL GOVERNMENT	899.	892.	850.	885.	953.	1012.	1150.		
24.	STATE AND LOCAL GOVT.	15953.	12342.	13940.	16285.	17286.	19622.	22417.		
25.	MILITARY	27.	17.	18.	19.	19.	20.	20.		
26.	TOTAL EMPLOYMENT	66525.	80756.	76783.	80036.	82890.	90360.	93601.		
27.	POPULATION	185858.	191736.	195582.	202283.	206819.	212893.	219628.		
28.	TOTAL INCOME	458602.	578680.	642204.	767023.	904799.	1269034.	2207621.		
29.	TOTAL EARNING	309193.	377054.	425884.	511852.	609403.	871631.	1523708.		
30.	TOTAL EMP(BY RESIDENT)	66520.	80629.	78315.	81453.	83955.	90617.	93799.		

TABLE B.5. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY 1970-2020
REGION 5 , MINNESOTA

INDUSTRY NO.	TITLE	ESTIMATED			PROJECTED				
		1970	1975	1980	1985	1990	2000	2020	
1.	AGRICULTURE, FOR., FISH.	8191.	8838.	2751.	2344.	2157.	1910.	1389.	
2.	MINING	4.	56.	177.	154.	133.	109.	57.	
3.	CONSTRUCTION	1477.	1571.	1768.	1873.	1951.	2203.	2157.	
4.	FOOD PROD.	655.	735.	869.	813.	759.	736.	530.	
5.	TEXTILE PROD.	17.	18.	81.	86.	83.	98.	86.	
6.	APPAREL	436.	528.	424.	412.	373.	330.	235.	
7.	LUMBER, FURN.	642.	747.	684.	679.	678.	697.	585.	
8.	PAPER PROD.	959.	993.	1531.	1692.	1854.	2242.	2361.	
9.	PRINTING AND PUB.	665.	741.	730.	818.	894.	1059.	1110.	
10.	CHEMICALS	47.	48.	56.	55.	53.	57.	51.	
11.	PETROLEUM REFINING	7.	7.	15.	15.	14.	13.	9.	
12.	PRIMARY METALS	56.	62.	79.	77.	73.	71.	53.	
13.	FABRICATED METALS	160.	165.	209.	233.	248.	283.	283.	
14.	MACHINERY, EXC. ELEC.	162.	173.	362.	393.	416.	454.	395.	
15.	ELECTRICAL MACH.	72.	78.	70.	73.	77.	84.	77.	
16.	MOTOR VEHICLES	20.	21.	20.	18.	17.	15.	9.	
17.	TRANS., EXC. MOT. VEH.	738.	765.	635.	633.	639.	619.	527.	
18.	MISC. MANUFACTURING	365.	404.	296.	300.	297.	294.	216.	
19.	TRANS., COMM., UTIL.	1665.	1907.	2064.	2368.	2145.	2375.	2209.	
20.	TRADE	701.	9435.	10247.	10459.	10774.	11534.	9953.	
21.	FIN., INS., REAL EST.	590.	1023.	1670.	1841.	1992.	2381.	2425.	
22.	SERVICES	5960.	6967.	8270.	8747.	9475.	10793.	11610.	
23.	FEDERAL GOVERNMENT	822.	785.	958.	996.	1091.	1205.	1362.	
24.	STATE AND LOCAL GOVT.	7498.	8583.	10649.	12424.	13418.	15775.	17556.	
25.	MILITARY	44.	30.	87.	83.	79.	74.	62.	
26.	TOTAL EMPLOYMENT	38333.	44680.	44703.	47279.	49689.	55422.	55319.	
27.	POPULATION	113919.	124196.	122469.	127581.	131790.	139507.	139953.	
28.	TOTAL INCOME	250528.	315968.	368704.	446344.	536170.	777780.	1321566.	
29.	TOTAL EARNING	170371.	200229.	252935.	309540.	377338.	591253.	980198.	
30.	TOTAL EMP (BY RESIDENT)	36070.	42063.	41414.	43600.	45566.	50253.	50157.	

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(BY STATE POPULATION PROJECTIONS)

TABLE B.6. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY 1970-2025
 REGION 6E, MINNESOTA

INDUSTRY	ESTIMATED				PROJECTED			
	1970	1975	1980	1985	1990	2000	2020	
1. AGRICULTURE, FOR., FISH.	9971.	11462.	5724.	4917.	4488.	3867.	2792.	
2. MINING	48.	334.	183.	161.	141.	119.	79.	
3. CONSTRUCTION	2616.	3210.	3429.	3634.	3751.	4094.	3989.	
4. FOOD PROD.	1334.	1536.	1893.	1816.	1735.	1686.	1334.	
5. TEXTILE PROD.	39.	47.	203.	196.	203.	223.	198.	
6. APPAREL	249.	292.	262.	262.	245.	224.	170.	
7. LUMBER, FURN.	218.	248.	243.	249.	256.	272.	246.	
8. PAPER PROD.	1296.	2136.	3520.	3962.	4449.	5655.	6219.	
9. PRINTING AND PUB.	417.	478.	447.	509.	566.	693.	769.	
10. CHEMICALS	145.	167.	193.	189.	184.	196.	179.	
11. PETROLEUM REFINING	20.	22.	45.	43.	39.	35.	25.	
12. PRIMARY METALS	15.	17.	22.	22.	22.	21.	17.	
13. FABRICATED METALS	406.	470.	612.	695.	753.	896.	927.	
14. MACHINERY, EXC. ELEC.	675.	782.	1563.	1736.	1879.	2140.	1987.	
15. ELECTRICAL MACH.	773.	875.	845.	921.	1006.	1210.	1194.	
16. MOTOR VEHICLES	122.	151.	148.	135.	127.	115.	71.	
17. TRANS., EXC. MOT. VEH.	10.	11.	9.	9.	9.	9.	8.	
18. MISC. MANUFACTURING	944.	1081.	845.	887.	907.	958.	768.	
19. TRANS., COMM., UTIL.	1297.	1401.	1453.	1473.	1542.	1711.	1674.	
20. TRADE	7675.	10266.	11133.	11545.	12047.	13057.	11825.	
21. FIN., INS., REAL EST.	685.	973.	1448.	1611.	1758.	2106.	2227.	
22. SERVICES	4151.	5994.	6958.	7420.	8088.	9186.	10275.	
23. FEDERAL GOVERNMENT	415.	422.	505.	530.	582.	638.	751.	
24. STATE AND LOCAL GOVT.	5915.	7169.	8942.	10475.	11321.	13064.	15022.	
25. MILITARY	8.	7.	22.	21.	21.	21.	19.	
26. TOTAL EMPLOYMENT	40044.	49551.	50647.	53420.	56121.	62196.	62763.	
27. POPULATION	98415.	102421.	104015.	108904.	112959.	118925.	123284.	
28. TOTAL INCOME	291039.	380073.	455766.	553111.	665385.	957104.	1670152.	
29. TOTAL EARNING	215329.	284158.	327813.	395633.	475811.	688519.	1197683.	
30. TOTAL EMP (BY RESIDENT)	36535.	45205.	45970.	48247.	50358.	55095.	55525.	

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TABLE B.7. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY 1970-2020
 REGION 6W , MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED				
	1970	1975	1980	1985	1990	2000	2020			
1.AGRICULTURE, FOR., FISH.	8238.	9244.	8133.	6816.	6049.	4858.	3340.			
2.MINING	128.	118.	35.	30.	27.	21.	14.			
3.CONSTRUCTION	1006.	1372.	1250.	1303.	1309.	1327.	1257.			
4.FOOD PRD.	593.	751.	824.	786.	728.	643.	490.			
5.TEXTILE PRD.	12.	11.	13.	12.	12.	11.	9.			
6.APPAREL	16.	18.	22.	23.	23.	21.	18.			
7.LUMBER, FURN.	23.	22.	19.	20.	21.	21.	20.			
8.PAPER PRD.	12.	18.	33.	36.	39.	44.	46.			
9.PRINTING AND PUB.	230.	246.	107.	122.	133.	151.	162.			
10.CHEMICALS	33.	36.	36.	41.	44.	54.	65.			
11.PETROLEUM REFINING	0	0	0	0	0	0	0			
12.PRIMARY METALS	0	0	0	0	0	0	0			
13.FABRICATED METALS	190.	187.	198.	227.	244.	258.	277.			
14.MACHINERY, EXC. ELEC.	443.	485.	424.	474.	506.	539.	540.			
15.ELECTRICAL MACH.	98.	109.	81.	93.	103.	121.	143.			
16.MOTOR VEHICLES	16.	22.	21.	22.	24.	27.	29.			
17.TRANS., EXC. MOT. VEH.	36.	41.	49.	50.	51.	49.	43.			
18.MISC. MANUFACTURING	416.	451.	391.	425.	445.	471.	462.			
19.TRANS., COMM., UTIL.	795.	887.	619.	640.	668.	718.	729.			
20.TRADE	4669.	6064.	5472.	5737.	5948.	6219.	5940.			
21.FIN., INS., REAL EST.	7517.	775.	643.	710.	752.	832.	870.			
22.SERVICES	2487.	3622.	3147.	3286.	3443.	3548.	3785.			
23.FEDERAL GOVERNMENT	315.	295.	273.	273.	282.	269.	277.			
24.STATE AND LOCAL GOVT.	3508.	3778.	4261.	4302.	5109.	5380.	5827.			
25.MILITARY	3.	3.	5.	5.	5.	5.	5.			
26.TOTAL EMPLOYMENT	23828.	28550.	26055.	26035.	25966.	25600.	24346.			
27.POPULATION	62068.	61248.	60306.	60435.	59867.	58697.	55068.			
28.TOTAL INCOME	164578.	212709.	240249.	277530.	316767.	405473.	650691.			
29.TOTAL EARNING	119958.	153483.	164393.	186619.	210480.	265636.	415127.			
30.TOTAL EMP(BY RESIDENT)	21855.	26183.	24494.	24411.	24208.	23555.	22152.			

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(BY STATE POPULATION PROJECTIONS)

TABLE B.8. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY 1970-2020
 REGION 7E, MINNESOTA

INDUSTRY	ESTIMATED				PROJECTED			
	1970	1975	1980	1985	1990	2000	2020	
1. AGRICULTURE, FOR., FISH.	6798.	7229.	3303.	2981.	2899.	2906.	2187.	
2. MINING	24.	38.	204.	196.	172.	150.	104.	
3. CONSTRUCTION	901.	1338.	1656.	1873.	2083.	2660.	2689.	
4. FOOD PROD.	322.	437.	696.	711.	719.	791.	647.	
5. TEXTILE PROD.	7.	6.	3.	4.	4.	4.	4.	
6. APPAREL	116.	163.	126.	128.	121.	123.	90.	
7. LUMBER, FURN.	227.	307.	296.	305.	317.	357.	305.	
8. PAPER PROD.	82.	111.	86.	106.	120.	165.	182.	
9. PRINTING AND PUB.	156.	224.	187.	227.	277.	400.	478.	
10. CHEMICALS	46.	58.	51.	55.	57.	71.	69.	
11. PETROLEUM REFINING	19.	32.	55.	57.	57.	62.	44.	
12. PRIMARY METALS	32.	48.	42.	47.	49.	59.	52.	
13. FABRICATED METALS	424.	642.	551.	657.	745.	986.	1022.	
14. MACHINERY, EXC. ELEC.	459.	692.	1512.	1843.	2187.	2948.	3136.	
15. ELECTRICAL MACH.	236.	303.	267.	295.	325.	390.	329.	
16. MOTOR VEHICLES	28.	45.	40.	39.	40.	44.	32.	
17. TRANS., EXC. MOT. VEH.	145.	194.	151.	154.	162.	172.	136.	
18. MISC. MANUFACTURING	395.	547.	691.	857.	1048.	1507.	1728.	
19. TRANS., COMM., UTIL.	681.	734.	978.	1088.	1255.	1685.	1891.	
20. TRADE	4774.	5793.	7254.	8073.	9093.	11484.	11284.	
21. FIN., INS., REAL EST.	456.	615.	840.	1009.	1187.	1654.	1863.	
22. SERVICES	3117.	4542.	5578.	6278.	7245.	9333.	10520.	
23. FEDERAL GOVERNMENT	443.	454.	624.	680.	772.	915.	1079.	
24. STATE AND LOCAL GOVT.	5375.	6406.	8488.	10667.	12402.	16510.	19747.	
25. MILITARY	13.	12.	37.	42.	47.	60.	53.	
26. TOTAL EMPLOYMENT	25150.	30970.	33716.	38373.	43383.	55348.	59680.	
27. POPULATION	76551.	90350.	93541.	104844.	116893.	142392.	154752.	
28. TOTAL INCOME	209390.	259758.	330255.	431588.	561311.	941353.	1735295.	
29. TOTAL EARNING	105371.	128378.	174848.	231042.	304309.	524322.	991834.	
30. TOTAL EMP (BY RESIDENT)	26922.	33231.	36045.	40957.	46179.	58589.	63473.	

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TABLE B.9. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY 1970-2020
 REGION 7M , MINNESOTA

INDUSTRY NO.	TITLE	ESTIMATED					PROJECTED				
		1970	1975	1980	1985	1990	2000	2020			
1.	AGRICULTURE, FOR., FISH.	16123.	11433.	3832.	3562.	3476.	3502.	2935.			
2.	MINING	70.	204.	275.	256.	239.	225.	153.			
3.	CONSTRUCTION	2910.	3456.	4137.	4586.	5027.	6115.	6736.			
4.	FOOD PROD.	1492.	1885.	2381.	2310.	2240.	2215.	1887.			
5.	TEXTILE PROD.	5.	7.	34.	35.	38.	46.	46.			
6.	APPAREL	583.	747.	636.	639.	599.	553.	451.			
7.	LUMBER, FURN.	323.	419.	415.	430.	451.	488.	468.			
8.	PAPER PROD.	+24.	572.	914.	1020.	1134.	1390.	1581.			
9.	PRINTING AND PUB.	752.	962.	1005.	1156.	1303.	1628.	1916.			
10.	CHEMICALS	45.	61.	73.	74.	73.	82.	80.			
11.	PETROLEUM REFINING	2.	2.	5.	5.	5.	5.	4.			
12.	PRIMARY METALS	28.	42.	55.	56.	56.	59.	48.			
13.	FABRICATED METALS	849.	1150.	1521.	1760.	1957.	2427.	2667.			
14.	MACHINERY, EXC. ELEC.	579.	748.	1654.	1902.	2146.	2594.	2555.			
15.	ELECTRICAL MACH.	1535.	1992.	1881.	2037.	2207.	2569.	2640.			
16.	MOTOR VEHICLES	40.	47.	49.	47.	48.	48.	35.			
17.	TRANS., EXC. MOT. VEH.	150.	195.	170.	176.	186.	194.	185.			
18.	MISC. MANUFACTURING	2912.	3708.	2894.	3057.	3151.	3349.	2807.			
19.	TRANS., COMM., UTIL.	2767.	3299.	3759.	3918.	4247.	5053.	5209.			
20.	TRADE	11952.	15669.	18096.	19288.	20860.	24068.	23226.			
21.	FIN., INS., REAL EST.	1058.	1696.	2922.	3365.	3828.	4950.	5584.			
22.	SERVICES	9782.	12413.	15634.	17175.	19419.	23497.	28459.			
23.	FEDERAL GOVERNMENT	1502.	1759.	2281.	2445.	2762.	3178.	4139.			
24.	STATE AND LOCAL GOVT.	8477.	10955.	14330.	17434.	19746.	24900.	31064.			
25.	MILITARY	34.	24.	77.	82.	86.	95.	91.			
26.	TOTAL EMPLOYMENT	58494.	73445.	79032.	86754.	95285.	113249.	124932.			
27.	POPULATION	173970.	197327.	206516.	226760.	248394.	288032.	326005.			
28.	TOTAL INCOME	460502.	605957.	754584.	963059.	1227398.	1953194.	3737694.			
29.	TOTAL EARNING	396323.	382978.	476875.	602661.	761756.	1195804.	2309272.			
30.	TOTAL EMP(BY RESIDENT)	61171.	78144.	82395.	90644.	99700.	118957.	130557.			

DATE : 79/10/84.

(BY STATE POPULATION PROJECTIONS)

TABLE B.10. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY 1970-2020
REGION 8 , MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED				
	1970	1975	1980	1985	1990	2000	2020			
1. AGRICULTURE, FOR., FISH.	16620.	18914.	11739.	9952.	8896.	7233.	5131.			
2. MINING	197.	217.	81.	76.	68.	56.	44.			
3. CONSTRUCTION	2197.	2802.	2404.	2432.	2343.	2302.	2313.			
4. FOOD PRD.	2989.	2795.	3848.	3485.	3287.	3020.	2663.			
5. TEXTILE PROD.	51.	57.	70.	55.	60.	53.	41.			
6. APPAREL	174.	203.	224.	233.	226.	207.	170.			
7. LUMBER, FURN.	100.	98.	124.	120.	123.	123.	120.			
8. PAPER PROD.	21.	22.	44.	47.	48.	50.	50.			
9. PRINTING AND PUB.	747.	773.	889.	949.	963.	979.	925.			
10. CHEMICALS	59.	57.	148.	131.	126.	110.	89.			
11. PETROLEUM REFINING	24.	29.	70.	55.	77.	70.	71.			
12. PRIMARY METALS	0	0	0	0	0	0	0			
13. FABRICATED METALS	113.	108.	517.	512.	476.	418.	321.			
14. MACHINERY, EXC. ELEC.	950.	976.	2132.	2086.	1969.	1548.	778.			
15. ELECTRICAL MACH.	105.	110.	480.	492.	479.	453.	349.			
16. MOTOR VEHICLES	60.	56.	196.	168.	159.	140.	85.			
17. TRANS., EXC. MOT. VEH.	155.	183.	94.	95.	98.	97.	115.			
18. MISC. MANUFACTURING	458.	476.	703.	714.	705.	692.	646.			
19. TRANS., COMM., UTIL.	1485.	1819.	2225.	2283.	2355.	2457.	2447.			
20. TRADE	10599.	14628.	12795.	13310.	13684.	14231.	13679.			
21. FIN., INS., REAL EST.	1266.	1757.	2609.	2779.	2800.	2778.	2244.			
22. SERVICES	6752.	9049.	10429.	10717.	10994.	11123.	11708.			
23. FEDERAL GOVERNMENT	763.	730.	1096.	1137.	1219.	1249.	1491.			
24. STATE AND LOCAL GOVT.	7677.	8672.	10893.	12325.	12885.	13850.	16379.			
25. MILITARY	44.	31.	184.	178.	173.	162.	159.			
26. TOTAL EMPLOYMENT	53496.	64562.	63995.	64332.	64213.	63401.	62018.			
27. POPULATION	141900.	140614.	140964.	143194.	143610.	139020.	142195.			
28. TOTAL INCOME	403358.	481849.	631100.	734235.	850118.	1109494.	1887698.			
29. TOTAL EARNING	299835.	349289.	450932.	513914.	614427.	813906.	1521679.			
30. TOTAL EMP(BY RESIDENT)	50954.	61531.	61251.	61359.	60925.	59514.	58184.			

TABLE B.11. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY 1970-2020
 REGION 9 , MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED				
	1970	1975	1980	1985	1990	2000	2020			
1. AGRICULTURE, FOR., FISH.	18045.	20493.	18892.	16159.	14670.	12478.	9144.			
2. MINING	253.	370.	120.	110.	101.	90.	67.			
3. CONSTRUCTION	3624.	4746.	4609.	4929.	5088.	5552.	5672.			
4. FOOD PROD.	5426.	5756.	6633.	6474.	6159.	5794.	4742.			
5. TEXTILE PROD.	294.	299.	356.	337.	330.	320.	273.			
6. APPAREL	289.	312.	410.	440.	443.	444.	387.			
7. LUMBER, FURN.	355.	377.	338.	365.	390.	418.	411.			
8. PAPER PROD.	207.	229.	450.	519.	589.	732.	848.			
9. PRINTING AND PUB.	2298.	2630.	1206.	1415.	1595.	1955.	2262.			
10. CHEMICALS	199.	237.	254.	299.	339.	450.	604.			
11. PETROLEUM REFINING	28.	27.	55.	86.	38.	39.	25.			
12. PRIMARY METALS	359.	383.	416.	467.	496.	540.	516.			
13. FABRICATED METALS	756.	833.	965.	1152.	1282.	1557.	1758.			
14. MACHINERY, EXC. ELEC.	1927.	1956.	1780.	2024.	2194.	2428.	2560.			
15. ELECTRICAL MACH.	2761.	3196.	2543.	2954.	3366.	4293.	5479.			
16. MOTOR VEHICLES	291.	327.	338.	379.	435.	556.	676.			
17. TRANS., EXC. MOT. VEH.	437.	512.	648.	678.	706.	717.	679.			
18. MISC. MANUFACTURING	2771.	3122.	2853.	3208.	3474.	3995.	4245.			
19. TRANS., COMM., UTIL.	2448.	3011.	2232.	2360.	2532.	2918.	3216.			
20. TRADE	16967.	22115.	21287.	22936.	24504.	27668.	28692.			
21. FIN., INS., REAL EST.	1943.	2803.	2482.	2806.	3056.	3529.	4114.			
22. SERVICES	12456.	15536.	14448.	15530.	16795.	18753.	21837.			
23. FEDERAL GOVERNMENT	903.	885.	877.	902.	960.	992.	1112.			
24. STATE AND LOCAL GOVT.	11657.	13421.	16269.	19275.	20733.	23682.	27887.			
25. MILITARY	34.	25.	47.	49.	49.	51.	53.			
26. TOTAL EMPLOYMENT	86728.	103601.	100509.	105851.	110323.	120049.	127256.			
27. POPULATION	218648.	217876.	227928.	234427.	238949.	243378.	255466.			
28. TOTAL INCOME	651866.	811782.	972590.	1152281.	1352252.	1858251.	3218273.			
29. TOTAL EARNING	481749.	596047.	756513.	902759.	1071784.	1510882.	2668545.			
30. TOTAL EMP (BY RESIDENT)	81371.	98146.	96286.	101045.	104589.	112477.	118390.			

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DATE : 79/10/34.

(BY STATE POPULATION PROJECTIONS)

TABLE B.12. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY 1970-2020
REGION 10, MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED				
	1970	1975	1980	1985	1990	2000	2020			
1. AGRICULTURE, FOR., FISH.	24800.	28580.	20202.	17170.	15650.	13533.	9915.			
2. MINING	2652.	590.	232.	207.	207.	200.	161.			
3. CONSTRUCTION	6383.	7818.	8565.	9157.	9557.	10639.	11116.			
4. FOOD PROD.	9834.	10566.	12935.	12790.	12384.	11577.	9567.			
5. TEXTILE PROD.	636.	637.	655.	619.	633.	646.	575.			
6. APPAREL	645.	659.	458.	504.	505.	515.	443.			
7. LUMBER, FURN.	1683.	1874.	2479.	2587.	2664.	2744.	2531.			
8. PAPER PROD.	561.	373.	570.	628.	682.	777.	821.			
9. PRINTING AND PUB.	2098.	2283.	1340.	1493.	1605.	1827.	1869.			
10. CHEMICALS	594.	614.	569.	569.	644.	750.	867.			
11. PETROLEUM REFINING	71.	75.	14.	18.	11.	10.	5.			
12. PRIMARY METALS	805.	837.	420.	440.	426.	403.	327.			
13. FABRICATED METALS	1958.	2254.	2420.	2765.	2981.	3328.	3381.			
14. MACHINERY, EXC. ELEC.	8556.	9306.	14380.	16674.	18486.	21552.	23167.			
15. ELECTRICAL MACH.	950.	1009.	512.	542.	572.	657.	741.			
16. MOTOR VEHICLES	264.	268.	49.	57.	47.	49.	41.			
17. TRANS., EXC. MOT. VEH.	348.	349.	196.	188.	182.	167.	133.			
18. MISC. MANUFACTURING	4346.	4816.	4249.	4648.	4917.	5426.	4949.			
19. TRANS., COMM., UTIL.	5415.	6088.	5066.	5279.	5620.	6427.	6865.			
20. TRADE	29340.	35675.	34477.	36045.	37719.	41238.	39610.			
21. FIN., INS., REAL EST.	4288.	5105.	5809.	6681.	7479.	9230.	10745.			
22. SERVICES	30598.	37369.	40468.	42630.	45665.	51556.	60479.			
23. FEDERAL GOVERNMENT	1564.	1497.	1560.	1603.	1716.	1798.	2089.			
24. STATE AND LOCAL GOVT.	19889.	23560.	27318.	31787.	33947.	38488.	43964.			
25. MILITARY	30.	23.	37.	38.	37.	38.	36.			
26. TOTAL EMPLOYMENT	158208.	182225.	184979.	195159.	204337.	223598.	234394.			
27. POPULATION	384370.	393762.	410221.	427319.	441464.	460270.	492305.			
28. TOTAL INCOME	1222653.	1417198.	1807312.	2167391.	2575862.	3616713.	6325904.			
29. TOTAL EARNING	940493.	1053979.	1395625.	1674096.	1999948.	2835044.	4951047.			
30. TOTAL EMP (BY RESIDENT)	151457.	174494.	175196.	183525.	190520.	205001.	212786.			

TABLE B.13. ESTIMATED AND PROJECTED TOTAL EMPLOYMENT IN SPECIFIED INDUSTRY 1970-2020
REGION 11, MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED				
	1970	1975	1980	1985	1990	2000	2010	2020		
1. AGRICULTURE, FOR., FISH.	9959.	13306.	7024.	6080.	5792.	5416.	4210.			
2. MINING	1595.	1699.	716.	669.	637.	601.	483.			
3. CONSTRUCTION	46199.	39376.	62876.	65222.	66775.	71542.	75032.			
4. FOOD PROD.	23528.	19746.	22354.	19932.	17743.	15078.	11106.			
5. TEXTILE PROD.	1342.	1287.	1373.	1170.	1113.	994.	785.			
6. APPAREL	4035.	3864.	2787.	2591.	2275.	1869.	1362.			
7. LUMBER, FURN.	3561.	3457.	5814.	5445.	5120.	4615.	3748.			
8. PAPER PROD.	16999.	15852.	25373.	25695.	25853.	26467.	25588.			
9. PRINTING AND PUB.	23951.	22693.	17362.	18411.	19044.	20228.	20705.			
10. CHEMICALS	6951.	6590.	5120.	5095.	5081.	5477.	5906.			
11. PETROLEUM REFINING	1476.	1429.	1816.	1819.	1835.	1877.	1817.			
12. PRIMARY METALS	4194.	4025.	3232.	3179.	2991.	2683.	2137.			
13. FABRICATED METALS	21203.	20485.	21950.	22732.	22482.	22417.	21050.			
14. MACHINERY, EXC. ELEC.	50561.	48619.	64707.	70297.	74298.	79651.	82446.			
15. ELECTRICAL MACH.	16171.	15484.	25814.	27857.	30107.	34970.	42225.			
16. MOTOR VEHICLES	3789.	3645.	5394.	5213.	5286.	5522.	5546.			
17. TRANS., EXC. MOT. VEH.	3864.	3787.	1046.	1024.	1008.	948.	834.			
18. MISC. MANUFACTURING	25266.	24464.	29146.	31109.	32614.	35487.	36706.			
19. TRANS., COMM., UTIL.	57603.	59284.	65472.	64788.	66364.	70056.	72210.			
20. TRADE	225189.	249531.	263756.	270751.	281671.	302049.	307492.			
21. FIN., INS., REAL EST.	52116.	592256.	66061.	72349.	77712.	89787.	105031.			
22. SERVICES	170367.	202441.	230844.	243876.	264362.	294739.	371123.			
23. FEDERAL GOVERNMENT	20171.	18295.	18271.	18782.	20311.	21393.	27071.			
24. STATE AND LOCAL GOVT.	99110.	117157.	136075.	149775.	153225.	159076.	169197.			
25. MILITARY	1338.	922.	879.	819.	762.	581.	585.			
26. TOTAL EMPLOYMENT	887429.	956394.	1085261.	1134580.	1184460.	1273731.	1394391.			
27. POPULATION	1879275.	1919782.	2027682.	2121467.	2222497.	2355696.	2700726.			
28. TOTAL INCOME	7606372.	8339115.	11486832.	13553141.	15977866.	21936064.	39121184.			
29. TOTAL EARNING	6497335.	6906413.	9694114.	11343112.	13246583.	17835315.	30929913.			
30. TOTAL EMP(BY RESIDENT)	796268.	881896.	972617.	1018630.	1066694.	1154025.	1266538.			

DATE : 79/10/34.

(BY STATE POPULATION PROJECTIONS)

TABLE C.1. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY 1970-2020
REGION 1, MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED		
	1970	1975	1980	1985	1990	2000	2020	
	(VALUE IN THOUSANDS OF 1967 DOLLARS)							
1. AGRICULTURE, FOR., FISH.	59855.	92951.	47001.	49377.	51051.	56839.	69997.	
2. MINING	4558.	4981.	0	0	0	0	0	
3. CONSTRUCTION	7067.	6839.	7781.	9297.	10951.	14895.	24614.	
4. FOOD PROD.	5338.	5242.	7758.	8957.	10221.	13056.	19352.	
5. TEXTILE PROD.	55.	68.	10.	15.	14.	19.	20.	
6. APPAREL	166.	120.	243.	293.	347.	493.	801.	
7. LUMBER, FURN.	2053.	2081.	5126.	6715.	8617.	12779.	22285.	
8. PAPER PROD.	133.	112.	117.	5.	0	0	0	
9. PRINTING AND PUB.	1357.	1206.	790.	981.	1197.	1721.	2961.	
10. CHEMICALS	342.	335.	582.	757.	977.	1602.	3199.	
11. PETROLEUM REFINING	0	0	0	0	0	0	0	
12. PRIMARY METALS	22.	26.	5.	7.	6.	8.	10.	
13. FABRICATED METALS	102.	90.	107.	144.	186.	266.	500.	
14. MACHINERY, EXC. ELEC.	5775.	5767.	3999.	5243.	6783.	10611.	19106.	
15. ELECTRICAL MACH.	51.	54.	57.	66.	77.	103.	173.	
16. MOTOR VEHICLES	197.	470.	539.	712.	915.	1347.	2482.	
17. TRANS., EXC. MOT. VEH.	9811.	9162.	33073.	40568.	49238.	66468.	105820.	
18. MISC. MANUFACTURING	924.	860.	1448.	1909.	2528.	4171.	8214.	
19. TRANS., COMM., UTIL.	7769.	10136.	11325.	13699.	16378.	23534.	41600.	
20. TRADE	25520.	36172.	38089.	44314.	51037.	68570.	140054.	
21. FIN., INS., REAL EST.	3518.	4564.	581.	7057.	8811.	13370.	25129.	
22. SERVICES	20749.	22378.	33581.	42390.	53042.	80903.	157173.	
23. FEDERAL GOVERNMENT	4802.	5272.	5943.	7123.	8475.	11575.	20323.	
24. STATE AND LOCAL GOVT.	23399.	28250.	41059.	50358.	61125.	88797.	163372.	
25. MILITARY	1220.	1155.	1237.	1449.	1662.	2150.	3556.	
26. TOTAL EMPLOYMENT	39293.	47250.	45368.	46279.	47338.	49668.	49546.	
27. POPULATION	94826.	97048.	96495.	98235.	98976.	97797.	96638.	
28. TOTAL INCOME	251961.	328432.	327025.	386283.	451230.	613521.	1040872.	
29. TOTAL EARNING	184253.	238291.	245451.	291436.	343638.	473286.	800731.	
30. TOTAL EMP (BY RESIDENT)	32399.	39150.	38436.	39245.	40084.	41826.	41551.	

TABLE C.2. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY 1970-2020
 REGION 2 , MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED								
	1970	1975	1980	1985	1990	2000	2020	1970	1975	1980	1985	1990	2000	2020
1.AGRICULTURE, FOR., FISH.	7542.	6575.	4033.	4116.	4119.	4699.	5892.	1056.	379.	0	0	0	0	0
2.MINING	5391.	5687.	6552.	8226.	10106.	15449.	26922.	449.	520.	806.	920.	1042.	1384.	1871.
3.CONSTRUCTION	449.	520.	806.	392.	472.	754.	1082.	99.	88.	310.	392.	472.	754.	1082.
4.FOOD PROD.	290.	307.	507.	563.	615.	825.	1064.	2180.	1986.	3839.	5011.	6411.	9840.	17787.
5.TEXTILE PROD.	71.	93.	171.	187.	239.	408.	662.	533.	453.	280.	339.	421.	604.	1057.
6.APPAREL	424.	389.	1390.	2033.	2683.	4512.	9851.	47.	50.	52.	1.	0	0	0
7.LUMBER, FURN.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8.PAPER PROD.	147.	124.	164.	216.	278.	446.	800.	261.	242.	247.	295.	375.	569.	1006.
9.PRINTING AND PUB.	4193.	5538.	6201.	7753.	9582.	14950.	27547.	12411.	2368.	3241.	4247.	5509.	39993.	66108.
10.CHEMICALS	151.	187.	576.	694.	828.	1099.	1678.	2540.	2368.	17346.	22558.	29048.	48089.	94971.
11.PETROLEUM REFINING	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12.PRIMARY METALS	147.	124.	164.	216.	278.	446.	800.	133.	120.	109.	147.	195.	333.	603.
13.FABRICATED METALS	129.	119.	86.	106.	129.	194.	347.	0	0	0	0	0	0	0
14.MACHINERY, EXC. ELEC.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15.ELECTRICAL MACH.	151.	187.	576.	694.	828.	1099.	1678.	261.	242.	247.	295.	375.	569.	1006.
16.MOTOR VEHICLES	4193.	5538.	6201.	7753.	9582.	14950.	27547.	12411.	2368.	3241.	4247.	5509.	39993.	66108.
17.TRANS., EXC. MOT. VEH.	12411.	16651.	18836.	22738.	27118.	39993.	66108.	2540.	2368.	17346.	22558.	29048.	48089.	94971.
18.MISC. MANUFACTURING	2540.	2368.	17346.	22558.	29048.	48089.	94971.	8152.	11148.	5571.	8211.	10285.	15238.	28784.
19.TRANS., COMM., UTIL.	4078.	5571.	6558.	8211.	10285.	15238.	28784.	17955.	21886.	32753.	41415.	51737.	81135.	152266.
20.TRADE	1359.	1222.	1689.	2009.	2447.	3372.	5913.	1359.	1222.	1689.	2009.	2447.	3372.	5913.
21.FIN., INS., REAL EST.	17223.	21573.	21054.	22815.	24347.	28378.	33175.	17223.	21573.	21054.	22815.	24347.	28378.	33175.
22.SERVICES	54737.	60046.	60766.	64183.	66924.	72785.	74586.	101749.	60046.	60766.	64183.	66924.	72785.	74586.
23.FEDERAL GOVERNMENT	101749.	129196.	139233.	1405746.	170494.	206110.	308288.	69631.	81703.	105746.	132178.	163537.	253203.	464277.
24.STATE AND LOCAL GOVT.	17955.	21886.	32753.	41415.	51737.	81135.	152266.	17955.	21886.	32753.	41415.	51737.	81135.	152266.
25.MILITARY	1359.	1222.	1689.	2009.	2447.	3372.	5913.	1359.	1222.	1689.	2009.	2447.	3372.	5913.
26.TOTAL EMPLOYMENT	17223.	21573.	21054.	22815.	24347.	28378.	33175.	17223.	21573.	21054.	22815.	24347.	28378.	33175.
27.POPULATION	54737.	60046.	60766.	64183.	66924.	72785.	74586.	54737.	60046.	60766.	64183.	66924.	72785.	74586.
28.TOTAL INCOME	101749.	129196.	139233.	1405746.	170494.	206110.	308288.	101749.	129196.	139233.	1405746.	170494.	206110.	308288.
29.TOTAL EARNING	69631.	81703.	105746.	132178.	163537.	253203.	464277.	69631.	81703.	105746.	132178.	163537.	253203.	464277.
30.TOTAL EMP(BY RESIDENT)	17955.	22052.	22003.	23858.	25436.	29544.	31680.	17955.	22052.	22003.	23858.	25436.	29544.	31680.

(VALUE IN THOUSANDS OF 1967 DOLLARS)

DATE : 79/10/84.

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(BY STATE POPULATION PROJECTIONS)

TABLE C.3. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY 1970-2020
REGION 3 , MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED		
	1970	1975	1980	1985	1990	2000	2020	
	(VALUE IN THOUSANDS OF 1967 DOLLARS)							
1.AGRICULTURE, FOR., FISH.	4260.	2803.	3429.	3553.	3798.	4502.	6346.	
2.MINING	116543.	129373.	129335.	133411.	137296.	150836.	189639.	
3.CONSTRUCTION	48327.	79376.	99462.	110146.	122678.	149078.	214974.	
4.FOOD PROD.	11631.	9379.	14421.	15167.	15996.	18157.	23174.	
5.TEXTILE PROD.	1334.	818.	586.	937.	984.	1271.	1806.	
6.APPAREL	5366.	3946.	6506.	7612.	8865.	11506.	17920.	
7.LUMBER, FURN.	12619.	12228.	14054.	16306.	17992.	22720.	35387.	
8.PAPER PROD.	41666.	43771.	44957.	53564.	62223.	80645.	130196.	
9.PRINTING AND PUR.	13237.	10757.	12554.	15331.	18797.	27227.	50817.	
10.CHEMICALS	2723.	2262.	2330.	2508.	2965.	4098.	6819.	
11.PETROLEUM REFINING	1111.	1076.	714.	817.	983.	1257.	2016.	
12.PRIMARY METALS	19177.	17562.	24616.	25901.	26915.	30260.	39535.	
13.FABRICATED METALS	9763.	6939.	11164.	13744.	16973.	24096.	42346.	
14.MACHINERY, EXC. ELEC.	7784.	6269.	7726.	8099.	9118.	11739.	17739.	
15.ELECTRICAL MACH.	2159.	1728.	843.	963.	1093.	1735.	2692.	
16.MOTOR VEHICLES	355.	309.	1479.	1960.	2618.	3981.	7248.	
17.TRANS., EXC. MOT. VEH.	972.	974.	1244.	1386.	1556.	1829.	2542.	
18.MISC. MANUFACTURING	7354.	6397.	5223.	5920.	6732.	8708.	13853.	
19.TRANS., COMM., UTIL.	60436.	78022.	85783.	101530.	122135.	175140.	335008.	
20.TRADE	110525.	129263.	153523.	175581.	200910.	267096.	437502.	
21.FIN., INS., REAL EST.	20397.	26436.	32221.	39632.	48703.	72315.	134706.	
22.SERVICES	100787.	116063.	179669.	219840.	267966.	397995.	766746.	
23.FEDERAL GOVERNMENT	23352.	25854.	32235.	39008.	47471.	69027.	142789.	
24.STATE AND LOCAL GOVT.	103780.	122247.	153456.	188763.	232548.	345681.	693243.	
25.MILITARY	25692.	17068.	20310.	22473.	25206.	30820.	49142.	
26.TOTAL EMPLOYMENT	123220.	135886.	142746.	145683.	147702.	153427.	155325.	
27.POPULATION	330463.	329011.	330295.	332554.	332354.	325409.	326391.	
28.TOTAL INCOME	95033.	1115025.	1371005.	1590236.	1836349.	2454703.	4155997.	
29.TOTAL EARNING	750400.	850620.	1037936.	1203853.	1402519.	1911687.	3364690.	
30.TOTAL EMP(BY RESIDENT)	114344.	126269.	131003.	133278.	134469.	138140.	139863.	

TABLE C.4. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY 1973-2020
 REGION 4 , MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED				
	1970	1975	1980	1985	1990	2000	2020			
1. AGRICULTURE, FOR., FISH.	78066.	96905.	60433.	63412.	65279.	72286.	87647.			
2. MINING	4962.	6273.	441.	910.	616.	637.	840.			
3. CONSTRUCTION	23010.	23482.	27046.	32354.	38167.	53131.	87246.			
4. FOOD PKOD.	8768.	11448.	15633.	17768.	19986.	25391.	35546.			
5. TEXTILE PROD.	73.	223.	54.	73.	73.	100.	145.			
6. APPAREL	619.	789.	1539.	1862.	2195.	3106.	4983.			
7. LUMBER, FURN.	1070.	1387.	2984.	3865.	4902.	7209.	12668.			
8. PAPER PROD.	287.	372.	685.	734.	965.	1648.	3105.			
9. PRINTING AND PUB.	3154.	3882.	2688.	3362.	4123.	6137.	10851.			
10. CHEMICALS	371.	470.	611.	810.	1049.	1779.	3496.			
11. PETROLEUM REFINING	0	0	0	0	0	0	0			
12. PRIMARY METALS	369.	574.	265.	339.	385.	560.	838.			
13. FABRICATED METALS	1489.	1797.	2193.	2914.	3782.	5639.	10484.			
14. MACHINERY, EXC. ELEC.	1995.	2594.	2724.	3451.	4309.	5299.	10849.			
15. ELECTRICAL MACH.	333.	417.	498.	605.	733.	1073.	1921.			
16. MOTOR VEHICLES	108.	180.	177.	233.	294.	442.	825.			
17. TRANS., EXC. MOT. VEH.	1975.	2895.	7792.	9258.	10944.	14104.	21567.			
18. MISC. MANUFACTURING	3870.	4613.	7543.	9582.	12114.	18739.	34744.			
19. TRANS., COMM., UTIL.	22261.	28481.	33169.	39944.	47573.	68147.	116390.			
20. TRADE	52992.	64995.	74458.	87800.	102524.	143368.	237215.			
21. FIN., INS., REAL EST.	8541.	10391.	13650.	17288.	21670.	33540.	63269.			
22. SERVICES	35667.	44859.	69650.	88773.	112240.	176325.	344869.			
23. FEDERAL GOVERNMENT	7452.	8644.	9958.	11990.	14298.	19839.	34603.			
24. STATE AND LOCAL GOVT.	49917.	59546.	89516.	111950.	138224.	208187.	393571.			
25. MILITARY	1844.	1837.	2176.	2574.	2964.	3946.	6627.			
26. TOTAL EMPLOYMENT	66525.	80756.	76783.	80036.	82890.	90360.	93601.			
27. POPULATION	185858.	191736.	195582.	202283.	206819.	212893.	219628.			
28. TOTAL INCOME	458592.	578580.	642204.	767023.	904799.	1269034.	2207621.			
29. TOTAL EARNING	309193.	377054.	425884.	511852.	609403.	871631.	1523708.			
30. TOTAL EMP (BY RESIDENT)	66520.	80629.	78315.	81453.	83955.	90617.	93799.			

(VALUE IN THOUSANDS OF 1967 DOLLARS)

TABLE C.5. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY 1970-2020
 REGION 5 , MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED					
	1970	1975	1980	1985	1990	1990	2000	2020			
NO.	TITLE										
		(VALUE IN THOUSANDS OF 1967 DOLLARS)									
1.	AGRICULTURE, FOR., FISH.	2447.	3047.8.	15143.	15697.	16059.	17485.	19973.			
2.	MINING	53.	166.	144.	138.	131.	127.	119.			
3.	CONSTRUCTION	9631.	9752.	11632.	14298.	17372.	25473.	42903.			
4.	FOOD PROD.	3189.	3908.	6598.	7102.	7609.	9108.	11784.			
5.	TEXTILE PROD.	68.	74.	487.	606.	724.	1089.	1680.			
6.	APPAREL	1640.	1771.	2619.	2737.	2810.	3159.	3900.			
7.	LUMBER, FURN.	2555.	2994.	4282.	4965.	5737.	7681.	11380.			
8.	PAPER PROD.	6084.	6606.	13436.	17169.	21730.	33793.	61068.			
9.	PRINTING AND PUB.	3576.	4234.	4994.	6461.	8269.	13133.	24194.			
10.	CHEMICALS	329.	377.	274.	339.	404.	623.	1121.			
11.	PETROLEUM REFINING	51.	71.	0	0	0	0	0			
12.	PRIMARY METALS	367.	488.	323.	366.	441.	641.	985.			
13.	FABRICATED METALS	1135.	1075.	1456.	1985.	2404.	3735.	6793.			
14.	MACHINERY, EXC. ELEC.	1032.	1165.	1368.	1784.	2337.	3613.	6490.			
15.	ELECTRICAL MACH.	419.	483.	0	0	0	0	0			
16.	MOTOR VEHICLES	146.	182.	0	0	0	0	0			
17.	TRANS., EXC. MOT. VEH.	3882.	5046.	6839.	7727.	8775.	10502.	14498.			
18.	MISC. MANUFACTURING	1752.	2068.	2084.	2375.	2672.	3396.	4573.			
19.	TRANS., COMM., UTIL.	10766.	12803.	13216.	16106.	19480.	28599.	47728.			
20.	TRADE	30657.	35841.	44219.	51929.	60550.	83886.	130634.			
21.	FIN., INS., REAL EST.	4573.	5799.	8786.	11256.	14395.	23274.	44722.			
22.	SERVICES	21471.	23931.	38766.	49583.	63119.	100454.	190002.			
23.	FEDERAL GOVERNMENT	7110.	7611.	10132.	12486.	15297.	22483.	40548.			
24.	STATE AND LOCAL GOVT.	34077.	41938.	63932.	82060.	114564.	165672.	310306.			
25.	MILITARY	1377.	1368.	2205.	2473.	2699.	3322.	4791.			
26.	TOTAL EMPLOYMENT	38333.	44680.	44703.	47279.	49689.	55422.	55319.			
27.	POPULATION	113919.	124196.	122469.	127581.	131790.	139507.	139950.			
28.	TOTAL INCOME	259528.	313968.	368704.	446344.	536170.	777780.	1321566.			
29.	TOTAL EARNING	170371.	200229.	252935.	309540.	377338.	561253.	980198.			
30.	TOTAL EMP(BY RESIDENT)	36070.	42063.	41414.	43603.	45566.	50263.	50157.			

TABLE C.6. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY 1973-2020
 REGION 6E , MINNESOTA

INDUSTRY NO.	TITLE	ESTIMATED					PROJECTED				
		1970	1975	1980	1985	1990	2000	2020			
(VALUE IN THOUSANDS OF 1967 DOLLARS)											
1.	AGRICULTURE, FOR., FISH.	61064.	87383.	53904.	56354.	57754.	62514.	72645.			
2.	MINING	854.	2209.	958.	942.	919.	919.	973.			
3.	CONSTRUCTION	17722.	22989.	28600.	34539.	41067.	57056.	92723.			
4.	FOOD PRD.	6533.	8544.	15130.	16659.	18268.	22843.	31143.			
5.	TEXTILE PRD.	140.	205.	1301.	1596.	1877.	2653.	4087.			
6.	APPAREL	767.	957.	1544.	1652.	1743.	2024.	2643.			
7.	LUMBER, FURN.	928.	1149.	1752.	2088.	2488.	3451.	5493.			
8.	PAPER PRD.	11431.	14691.	31945.	41491.	53769.	87737.	165399.			
9.	PRINTING AND PUB.	2165.	2637.	3080.	4031.	5235.	8491.	16632.			
10.	CHEMICALS	897.	1214.	890.	1097.	1306.	1986.	3641.			
11.	PETROLEUM REFINING	138.	184.	0	0	0	0	0			
12.	PRIMARY METALS	98.	146.	100.	115.	141.	210.	336.			
13.	FABRICATED METALS	2692.	3087.	4367.	5735.	7433.	11987.	22438.			
14.	MACHINERY, EXC. ELEC.	4101.	5255.	6466.	8535.	11211.	18077.	34039.			
15.	ELECTRICAL MACH.	4603.	5820.	116.	149.	189.	281.	520.			
16.	MOTOR VEHICLES	743.	1218.	20.	26.	33.	49.	85.			
17.	TRANS., EXC. MOT. VEH.	51.	72.	97.	110.	125.	149.	219.			
18.	MISC. MANUFACTURING	4697.	5807.	6338.	7456.	8675.	11735.	17115.			
19.	TRANS., COMM., UTIL.	8189.	9192.	9819.	12005.	14567.	21170.	36567.			
20.	TRADE	35578.	45804.	58287.	69260.	81632.	113926.	184293.			
21.	FIN., INS., REAL EST.	4136.	5198.	7965.	10263.	13202.	21411.	42587.			
22.	SERVICES	16778.	22743.	37753.	48460.	61935.	98053.	191185.			
23.	FEDERAL GOVERNMENT	3323.	4054.	5372.	6644.	8159.	11854.	22162.			
24.	STATE AND LOCAL GOVT.	26771.	32650.	50444.	64640.	82096.	127459.	246981.			
25.	MILITARY	920.	950.	1565.	1788.	1987.	2485.	3778.			
26.	TOTAL EMPLOYMENT	40044.	49551.	50647.	53420.	56121.	62196.	62763.			
27.	POPULATION	98415.	102421.	104015.	108904.	112959.	118925.	123284.			
28.	TOTAL INCOME	291039.	380073.	455766.	553111.	665385.	957104.	1670152.			
29.	TOTAL EARNING	215329.	284158.	327813.	395533.	475811.	688519.	1197683.			
30.	TOTAL EMP (BY RESIDENT)	36535.	45205.	45970.	48247.	50358.	55095.	55525.			

TABLE C.7. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY 1970-2020
 REGION 6W, MINNESOTA

INDUSTRY	ESTIMATED				PROJECTED		
	1970	1975	1980	1985	1990	2000	2020
NO.							
TITLE							
	(VALUE IN THOUSANDS OF 1967 DOLLARS)						
1.AGRICULTURE, FOR., FISH.	50690.	69799.	52815.	53579.	53455.	54084.	60303.
2.MINING	1530.	1602.	569.	560.	555.	553.	595.
3.CONSTRUCTION	6180.	7455.	9713.	11282.	12939.	16493.	25283.
4.FOOD PROD.	2579.	3278.	5661.	6305.	6284.	5990.	8971.
5.TEXTILE PROD.	35.	45.	71.	82.	90.	108.	154.
6.APPAREL	44.	51.	113.	125.	139.	154.	235.
7.LUMBER, FURN.	76.	82.	104.	125.	151.	197.	322.
8.PAPER PROD.	49.	67.	178.	220.	275.	392.	681.
9.PRINTING AND PUB.	952.	1146.	844.	1044.	1276.	1805.	3158.
10.CHEMICALS	169.	210.	284.	373.	474.	717.	1398.
11.PETROLEUM REFINING	0	0	0	0	0	0	0
12.PRIMARY METALS	0	0	0	0	0	0	0
13.FABRICATED METALS	978.	997.	1440.	1770.	2151.	2975.	5088.
14.MACHINERY, EXC. ELEC.	2109.	2476.	2783.	3390.	4081.	5455.	8965.
15.ELECTRICAL MACH.	439.	541.	665.	862.	1097.	1655.	3168.
16.MOTOR VEHICLES	75.	106.	116.	151.	189.	273.	477.
17.TRANS., EXC. MOT. VEH.	154.	229.	379.	440.	504.	598.	862.
18.MISC. MANUFACTURING	1636.	1874.	2875.	3439.	4083.	5475.	9285.
19.TRANS., COMM., UTIL.	4794.	5603.	6214.	7428.	8746.	11747.	19170.
20.TRADE	18595.	23482.	29033.	34024.	39438.	52116.	84587.
21.FIN., INS., REAL EST.	2765.	4090.	5280.	6417.	7724.	10805.	18790.
22.SERVICES	9558.	11366.	18348.	22498.	27322.	38409.	67164.
23.FEDERAL GOVERNMENT	2478.	2852.	3170.	3662.	4191.	5241.	8287.
24.STATE AND LOCAL GOVT.	13515.	15567.	22888.	28175.	34244.	48079.	86113.
25.MILITARY	558.	565.	849.	967.	1075.	1304.	2071.
26.TOTAL EMPLOYMENT	23828.	28550.	26055.	26035.	25966.	25600.	24345.
27.POPULATION	62068.	61248.	60306.	60435.	59867.	56697.	55058.
28.TOTAL INCOME	164578.	212709.	240249.	277530.	316767.	405473.	650691.
29.TOTAL EARNING	119958.	153483.	164393.	186619.	210480.	265636.	415127.
30.TOTAL EMP(BY RESIDENT)	21855.	26183.	24494.	24411.	24208.	23555.	22152.

TABLE C.8. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY 1970-2020
REGION 7E , MINNESOTA

INDUSTRY NO.	TITLE	ESTIMATED					PROJECTED				
		1970	1975	1980	1985	1990	2000	2020			
(VALUE IN THOUSANDS OF 1967 DOLLARS)											
1.	AGRICULTURE, FOR., FISH.	18754.	16941.	12834.	14295.	15716.	20073.	25137.			
2.	MINING	243.	450.	303.	380.	323.	354.	396.			
3.	CONSTRUCTION	7123.	9859.	12112.	15711.	20196.	33294.	56878.			
4.	FOOD PROD.	1453.	2260.	4647.	5409.	6241.	8804.	12508.			
5.	TEXTILE PROD.	28.	31.	16.	21.	24.	36.	52.			
6.	APPAREL	342.	523.	724.	794.	852.	1099.	1386.			
7.	LUMBER, FURN.	835.	1275.	1855.	2216.	2665.	3901.	5895.			
8.	PAPER PROD.	415.	668.	643.	906.	1192.	2116.	4025.			
9.	PRINTING AND PUB.	810.	1200.	1229.	1690.	2364.	4424.	9147.			
10.	CHEMICALS	240.	406.	257.	348.	433.	752.	1388.			
11.	PETROLEUM REFINING	129.	284.	91.	117.	155.	250.	473.			
12.	PRIMARY METALS	191.	349.	194.	253.	316.	532.	900.			
13.	FABRICATED METALS	2481.	3788.	3598.	4980.	6776.	12208.	23094.			
14.	MACHINERY, EXC. ELEC.	2573.	4300.	7247.	10233.	14334.	25088.	51587.			
15.	ELECTRICAL MACH.	1040.	1737.	770.	973.	1216.	1687.	1801.			
16.	MOTOR VEHICLES	183.	342.	40.	61.	74.	130.	241.			
17.	TRANS., EXC. MOT. VEH.	764.	1262.	1347.	1574.	1870.	2518.	3334.			
18.	MISC. MANUFACTURING	1794.	2687.	4929.	6890.	9658.	17986.	37493.			
19.	TRANS., COMM., UTIL.	4026.	4860.	6844.	9142.	12158.	21240.	41108.			
20.	TRADE	18804.	21175.	29529.	37743.	48104.	78815.	138094.			
21.	FIN., INS., REAL EST.	2579.	3232.	4714.	6472.	8855.	13275.	33077.			
22.	SERVICES	11535.	15062.	26051.	35528.	48336.	87506.	172680.			
23.	FEDERAL GOVERNMENT	3825.	4736.	5797.	7478.	9502.	15055.	28493.			
24.	STATE AND LOCAL GOVT.	24430.	30057.	47428.	65698.	90259.	164878.	334816.			
25.	MILITARY	777.	894.	1650.	2130.	2690.	4300.	7818.			
26.	TOTAL EMPLOYMENT	25150.	30970.	33716.	38373.	43383.	55548.	59680.			
27.	POPULATION	76551.	90350.	93541.	104844.	116893.	142392.	154752.			
28.	TOTAL INCOME	209390.	259758.	330255.	421588.	561311.	941353.	1735295.			
29.	TOTAL EARNING	105371.	128378.	174848.	231042.	304309.	524322.	991834.			
30.	TOTAL EMP (BY RESIDENT)	25922.	33231.	36045.	40957.	46179.	58589.	63479.			

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(BY STATE POPULATION PROJECTIONS)

TABLE C.9. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY 1970-2020
 REGION 7W, MINNESOTA

INDUSTRY	ESTIMATED					PROJECTED				
	1970	1975	1980	1985	1990	2000	2020			
1. AGRICULTURE, FOK., FISH.	44259.	56858.	30343.	33456.	36557.	44741.	59161.			
2. MINING	1948.	2053.	1015.	1025.	1027.	1089.	1255.			
3. CONSTRUCTION	25125.	23687.	29858.	38153.	48481.	75032.	142548.			
4. FOOD PKOD.	8797.	11500.	20660.	22959.	25447.	32111.	47011.			
5. TEXTILE PROD.	23.	35.	247.	317.	394.	603.	1041.			
6. APPAREL	2297.	2840.	4439.	4777.	5061.	5995.	8290.			
7. LUMBER, FURN.	1561.	2030.	3122.	3755.	4526.	6313.	10610.			
8. PAPER PROD.	2884.	4129.	8592.	11182.	14327.	22468.	43706.			
9. PRINTING AND PUB.	4863.	6134.	7642.	10129.	13320.	21990.	45795.			
10. CHEMICALS	358.	508.	383.	482.	589.	940.	1846.			
11. PETROLEUM REFINING	12.	15.	0	0	0	0	0			
12. PRIMARY METALS	216.	364.	250.	293.	368.	576.	955.			
13. FABRICATED METALS	6641.	8040.	11304.	15155.	20104.	33625.	66729.			
14. MACHINERY, EXC. ELEC.	3815.	5095.	6285.	8519.	11821.	20279.	40883.			
15. ELECTRICAL MACH.	10219.	13585.	0	0	0	0	0			
16. MOTOR VEHICLES	283.	367.	0	0	0	0	0			
17. TRANS., EXC. MOT. VEH.	948.	1468.	2087.	2443.	2889.	3701.	5687.			
18. MISC. MANUFACTURING	17059.	21514.	23047.	27211.	31796.	42980.	65756.			
19. TRANS., COMM., UTIL.	20244.	26086.	28260.	35652.	44814.	70116.	128770.			
20. TRADE	53668.	65113.	85347.	104541.	127796.	190167.	330309.			
21. FIN., INS., REAL EST.	6637.	9396.	15024.	20076.	26899.	46869.	100618.			
22. SERVICES	43772.	50827.	87170.	115064.	151749.	253694.	537640.			
23. FEDERAL GOVERNMENT	12313.	15730.	22256.	28298.	35816.	54892.	113248.			
24. STATE AND LOCAL GOVT.	40442.	55566.	86099.	115092.	153343.	260320.	547148.			
25. MILITARY	1809.	1938.	3345.	3983.	4644.	5335.	10315.			
26. TOTAL EMPLOYMENT	58494.	73445.	79032.	86754.	95285.	113249.	124932.			
27. POPULATION	173970.	197327.	206516.	226761.	248394.	288032.	326005.			
28. TOTAL INCOME	460502.	605957.	754584.	963059.	1227398.	1953194.	3737094.			
29. TOTAL EARNING	306323.	382978.	476875.	602661.	761756.	1195804.	2309272.			
30. TOTAL EMP (BY RESIDENT)	61171.	78144.	82395.	90644.	99700.	118957.	130557.			

(VALUE IN THOUSANDS OF 1957 DOLLARS)

TABLE C.10. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY 1970-2020
 REGION 8 , MINNESOTA

INDUSTRY NO.	TITLE	ESTIMATED					PROJECTED				
		1970	1975	1980	1985	1990	2000	2020			
(VALUE IN THOUSANDS OF 1967 DOLLARS)											
1.	AGRICULTURE, FOR., FISH.	127511.	141513.	151192.	155901.	166461.	190501.	234826.			
2.	MINING	1475.	1471.	1029.	1002.	1014.	1054.	1308.			
3.	CONSTRUCTION	12278.	14240.	35382.	36922.	40068.	42359.	51351.			
4.	FOOD PROD.	14765.	14730.	13091.	14314.	15670.	18654.	27508.			
5.	TEXTILE PROD.	204.	245.	338.	388.	426.	504.	701.			
6.	APPAREL	568.	674.	1378.	1575.	1747.	2066.	2810.			
7.	LUMBER, FURN.	408.	390.	183.	225.	285.	403.	765.			
8.	PAPER PROD.	148.	174.	160.	200.	248.	349.	611.			
9.	PRINTING AND PUB.	3839.	3937.	4782.	6361.	8433.	13711.	31905.			
10.	CHEMICALS	378.	433.	676.	598.	929.	1331.	2737.			
11.	PETROLEUM REFINING	173.	227.	0	0	0	0	0			
12.	PRIMARY METALS	0	0	0	0	0	0	0			
13.	FABRICATED METALS	670.	631.	1036.	1240.	1572.	2251.	4253.			
14.	MACHINERY, EXC. ELEC.	5394.	6030.	7858.	5558.	6686.	8906.	14548.			
15.	ELECTRICAL MACH.	513.	552.	668.	884.	1158.	1852.	3966.			
16.	MOTOR VEHICLES	464.	495.	107.	144.	185.	281.	539.			
17.	TRANS., EXC. MOT. VEH.	763.	1034.	1811.	2176.	2633.	3424.	6219.			
18.	MISC. MANUFACTURING	2191.	2275.	1792.	2187.	2640.	3651.	6513.			
19.	TRANS., COMM., UTIL.	8510.	10653.	21743.	28608.	38420.	61850.	142483.			
20.	TRADE	45967.	61458.	79070.	96109.	117767.	168846.	329968.			
21.	FIN., INS., REAL EST.	7793.	9516.	10148.	12110.	14278.	18982.	31229.			
22.	SERVICES	24815.	29657.	43971.	52960.	62943.	88239.	161861.			
23.	FEDERAL GOVERNMENT	6231.	7094.	12333.	15804.	20605.	32208.	81745.			
24.	STATE AND LOCAL GOVT.	33200.	39918.	58918.	75394.	96710.	148666.	328173.			
25.	MILITARY	1617.	1544.	3265.	3253.	3549.	3808.	5662.			
26.	TOTAL EMPLOYMENT	53496.	64562.	63995.	64332.	64213.	63401.	62018.			
27.	POPULATION	141900.	140614.	140964.	143194.	143610.	139020.	142195.			
28.	TOTAL INCOME	403368.	481849.	631100.	734235.	850118.	1109494.	1887693.			
29.	TOTAL EARNING	299835.	349289.	450932.	513914.	604427.	813906.	1521679.			
30.	TOTAL EMP (BY RESIDENT)	50954.	61531.	61251.	61359.	60925.	59514.	58184.			

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(BY STATE POPULATION PROJECTIONS)

TABLE C.II. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY 1970-2020
 REGION 9 , MINNESOTA

INDUSTRY	ESTIMATED				PROJECTED			
	1970	1975	1980	1985	1990	2000	2020	
NO.	TITLE							
		(VALUE IN THOUSANDS OF 1967 DOLLARS)						
1.	AGRICULTURE, FOR., FISH.	125821.	169452.	135873.	136365.	140947.	150372.	178194.
2.	MINING	2084.	3401.	1335.	1382.	1435.	1614.	1980.
3.	CONSTRUCTION	24694.	31265.	43755.	52334.	61845.	85538.	142417.
4.	FOOD PROD.	28290.	33593.	61191.	66535.	71675.	85347.	117776.
5.	TEXTILE PROD.	1207.	1383.	2232.	2565.	2858.	3499.	5131.
6.	APPAREL	978.	1143.	2693.	3053.	3496.	4453.	6773.
7.	LUMBER, FURN.	1592.	1836.	2444.	3008.	3699.	5154.	8940.
8.	PAPER PROD.	1295.	1629.	4716.	6077.	7873.	12405.	24229.
9.	PRINTING AND PUB.	13146.	15828.	12375.	15735.	19899.	30557.	57802.
10.	CHEMICALS	1416.	1909.	2800.	3798.	4997.	8292.	17647.
11.	PETROLEUM REFINING	230.	283.	805.	1432.	739.	957.	1013.
12.	PRIMARY METALS	2491.	3373.	3871.	4640.	5561.	7627.	11917.
13.	FABRICATED METALS	6085.	6335.	10066.	12991.	16279.	25023.	47076.
14.	MACHINERY, EXC. ELEC.	11910.	13486.	15608.	19347.	23704.	33049.	57176.
15.	ELECTRICAL MACH.	16929.	21440.	28205.	37365.	49063.	80524.	167249.
16.	MOTOR VEHICLES	2320.	3021.	3637.	4987.	6548.	10694.	21405.
17.	TRANS., EXC. MOT. VEH.	2496.	3746.	6604.	7752.	9108.	11575.	18076.
18.	MISC. MANUFACTURING	15396.	18080.	29289.	36306.	44711.	65334.	120377.
19.	TRANS., COMM., UTIL.	15705.	19850.	23507.	28770.	34840.	50422.	89584.
20.	TRADE	72163.	89577.	118383.	142706.	170595.	244009.	431376.
21.	FIN., INS., REAL EST.	12971.	15660.	21599.	26900.	33321.	50210.	94873.
22.	SERVICES	55652.	60577.	105062.	132494.	166061.	253302.	484251.
23.	FEDERAL GOVERNMENT	7093.	8376.	9965.	11841.	13972.	18902.	32551.
24.	STATE AND LOCAL GOVT.	57595.	68630.	109025.	138406.	173878.	265949.	520275.
25.	MILITARY	2190.	2174.	3479.	4076.	4659.	6084.	10458.
26.	TOTAL EMPLOYMENT	86728.	103601.	100509.	105851.	110323.	120049.	127256.
27.	POPULATION	218648.	217876.	227928.	234427.	238949.	243378.	255466.
28.	TOTAL INCOME	651856.	811782.	972590.	1152281.	1352252.	1858251.	3218273.
29.	TOTAL EARNING	481749.	596047.	756513.	902759.	1071784.	1510882.	2668545.
30.	TOTAL EMP (BY RESIDENT)	81971.	98146.	96286.	101045.	104689.	112477.	118390.

TABLE C.12. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY 1973-2020
REGION 10, MINNESOTA

INDUSTRY NO.	TITLE	ESTIMATED					PROJECTED				
		1970	1975	1980	1985	1990	2000	2020			
(VALUE IN THOUSANDS OF 1967 DOLLARS)											
1.	AGRICULTURE, FOR., FISH.	151723.	162859.	129719.	134600.	137694.	143840.	176662.			
2.	MINING	115443.	8631.	4167.	4189.	4797.	5642.	7554.			
3.	CONSTRUCTION	53892.	56189.	80201.	96657.	115319.	161734.	274681.			
4.	FOOD PROD.	81637.	81647.	123993.	137054.	149429.	174913.	240635.			
5.	TEXTILE PROD.	2982.	3119.	4382.	5089.	5921.	7596.	11582.			
6.	APPAREL	2461.	2573.	2985.	3512.	4019.	5254.	7943.			
7.	LUMBER, FURN.	9226.	9456.	17426.	20959.	24863.	33362.	53806.			
8.	PAPER PROD.	3259.	3318.	6682.	8289.	10239.	14651.	25777.			
9.	PRINTING AND PUB.	16356.	17416.	13988.	16900.	20374.	28962.	48567.			
10.	CHEMICALS	4806.	5368.	6403.	7981.	9796.	14422.	26160.			
11.	PETROLEUM REFINING	683.	904.	1224.	1466.	1792.	2548.	4250.			
12.	PRIMARY METALS	6012.	7191.	3502.	3934.	4309.	5139.	6866.			
13.	FABRICATED METALS	18331.	18706.	25929.	32040.	39135.	54975.	92802.			
14.	MACHINERY, EXC. ELEC.	77084.	88396.	129675.	165318.	237374.	304059.	539414.			
15.	ELECTRICAL MACH.	7253.	8395.	5734.	6978.	9474.	12653.	22855.			
16.	MOTOR VEHICLES	2026.	2356.	3018.	4011.	5175.	7175.	1045.			
17.	TRANS., EXC. MOT. VEH.	2182.	2734.	2301.	2513.	2758.	3195.	4216.			
18.	MISC. MANUFACTURING	27858.	31061.	45378.	55278.	66664.	93757.	150571.			
19.	TRANS., COMM., UTIL.	36390.	42615.	51891.	63039.	75750.	108575.	187451.			
20.	TRAD-	129586.	151448.	201864.	238046.	278571.	384917.	632565.			
21.	FIN., INS., REAL EST.	28511.	31930.	53522.	68384.	86974.	135633.	264036.			
22.	SERVICES	145553.	173773.	276215.	344032.	426605.	655931.	1271292.			
23.	FEDERAL GOVERNMENT	12811.	14470.	18140.	21669.	25687.	35157.	62776.			
24.	STATE AND LOCAL GOVT.	104765.	125741.	182735.	229744.	286200.	432541.	822663.			
25.	MILITARY	3589.	3683.	4651.	5413.	6129.	7853.	12878.			
26.	TOTAL EMPLOYMENT	158208.	182225.	184979.	195159.	204337.	223598.	234334.			
27.	POPULATION	384370.	393762.	410221.	427319.	441464.	460270.	492305.			
28.	TOTAL INCOME	122255.	1417198.	1837312.	2167391.	2575862.	3616713.	6325904.			
29.	TOTAL EARNING	940493.	1053979.	1395625.	1674096.	1999943.	2835044.	4951047.			
30.	TOTAL EMP (BY RESIDENT)	151457.	174494.	175196.	183525.	190520.	205001.	212785.			

DATE : 79/10/04.

(BY STATE POPULATION PROJECTIONS)

TABLE C.13. ESTIMATED AND PROJECTED TOTAL EARNING IN SPECIFIED INDUSTRY 1970-2020
REGION 11, MINNESOTA

INDUSTRY	ESTIMATED				PROJECTED			
	1970	1975	1980	1985	1990	2000	2020	
	(VALUE IN THOUSANDS OF 1967 DOLLARS)							
1. AGRICULTURE, FOK., FISH.	37235.	42794.	48314.	50498.	53237.	61096.	74372.	
2. MINING	11761.	12069.	7371.	7756.	8234.	9494.	12244.	
3. CONSTPUCTION	470264.	378068.	678711.	784278.	932015.	1182003.	1919449.	
4. FOOD PROD.	166935.	173486.	236709.	234617.	232460.	242317.	288644.	
5. TEXTILE PROD.	8392.	8542.	10353.	10699.	11393.	12530.	16353.	
6. APPAREL	21873.	21160.	20927.	20537.	20163.	20515.	24952.	
7. LUMBER, FURN.	24417.	24555.	50107.	53404.	56823.	64521.	88192.	
8. PAPER PROD.	157074.	163527.	309516.	350113.	334526.	495041.	769184.	
9. PRINTING AND PUB.	212249.	208488.	204139.	234085.	267058.	343857.	549554.	
10. CHEMICALS	72997.	77313.	68228.	78141.	88862.	116073.	190518.	
11. PETROLEUM REFINING	17141.	19828.	32346.	36518.	42555.	53652.	81906.	
12. PRIMARY METALS	41412.	48801.	35952.	37693.	39419.	43027.	53702.	
13. FABRICATED METALS	230225.	210642.	263165.	291777.	321765.	393182.	587827.	
14. MACHINERY, EXC. ELEC.	502522.	516016.	680927.	805255.	945449.	1237431.	2017494.	
15. ELECTRICAL MACH.	147220.	153150.	336747.	413401.	505837.	731250.	1371344.	
16. MOTOR VEHICLES	40788.	45237.	68752.	81045.	92460.	119608.	189702.	
17. TRANS., EXC. MOT. VEH.	33064.	41025.	12646.	13865.	15214.	17459.	24423.	
18. MISC. MANUFACTURING	204294.	205029.	351572.	412978.	484109.	648632.	1114057.	
19. TRANS., COMM., UTIL.	545779.	612437.	783127.	893877.	1013948.	1295214.	2052386.	
20. TRADE	1321095.	1415879.	1776956.	2034865.	2323427.	3046568.	5044437.	
21. FIN., INS., REAL EST.	414242.	445180.	664028.	798971.	958013.	1356937.	2527932.	
22. SERVICES	976768.	1083122.	1781531.	2203670.	2718844.	4003658.	7911182.	
23. FEDERAL GOVERNMENT	167798.	175991.	247472.	294227.	348121.	469045.	876293.	
24. STATE AND LOCAL GOVT.	643743.	798153.	998896.	1173380.	1373892.	1839590.	3097198.	
25. MILITARY	28137.	25921.	25724.	27340.	28761.	32646.	46552.	
26. TOTAL EMPLOYMENT	887429.	956394.	1085261.	1134680.	1184460.	1273731.	1394391.	
27. POPULATION	1879275.	1919782.	2027682.	2121467.	2222497.	2355696.	2700725.	
28. TOTAL INCOME	7606372.	8339115.	11486832.	13553141.	15977866.	21936064.	39121184.	
29. TOTAL EARNING	6497335.	6906413.	9694114.	11343112.	13246583.	17836315.	30929918.	
30. TOTAL EMP (BY RESIDENT)	796258.	881896.	972617.	1018630.	1066694.	1154025.	1266538.	