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MONITORING MINNESOTA'S ECONOMIC PERFORMANCE IN THE 1990S

Wilbur R. Maki  
University of Minnesota



**Department of Agricultural and Applied Economics**

University of Minnesota  
Institute of Agriculture, Forestry and Home Economics  
St. Paul, Minnesota 55108

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## MONITORING MINNESOTA'S ECONOMIC PERFORMANCE IN THE 1990s

### Summary

The monitoring of Minnesota's economic performance starts with access to statistical measures of jobs and income and an analytical framework and tools for assessing Minnesota's economic growth options and outlook. The economic base model serves in this report as a framework for identifying issue areas and performance criteria.

The linkage between regional specialization in basic industry, interregional trade and economic growth is illustrated in a series of findings in this report. The initial findings start with the gross state product of Minnesota and its disbursement in product and income and the excess industry output in the two trading regions--the seven-county Metropolitan Council Region and the 80 counties of Greater Minnesota. They continue with a presentation of forecasts and projections of the Minnesota economy in the 1990s and beyond.

The market-based Minnesota economy, including government enterprises, but excluding other government industry, accounted for 1,856,200 of the 2,086,300 total full-time equivalent jobs in Minnesota in 1985. Employer outlays for wage and salary workers, shown as employee compensation, totaled to \$40 billion, while value added payments allocated to self-employed workers totaled to \$7.6 billion. Indirect business taxes based on industry output totaled to \$6.2 billion. The remaining \$15.4 billion of the \$66 billion in total value added charges against the 1985 Minnesota gross state product is attributed to other value added, namely, the income payments and allocations for capital investment and entrepreneurship in the market-based Minnesota economy.

The underlying framework for measuring and understanding Minnesota's economic performance adopted in this presentation stems from economic base theory, namely, that a region's economic performance is conditioned by its export-producing sectors and the competitive position of its export-producing

businesses in US and world markets. The export-producing sectors receive revenues that ultimately pay for imports as well as local labor, capital and intermediate inputs. A region prospers or declines depending on the success of its base economy--its export-producing businesses. Much depends, however, on the location of the export-producing businesses and the public and private infrastructure serving these businesses.

Export-producing businesses in rural regions are distinguished by dependence on natural resource-based industries producing standardized products that face stiff price competition in global markets. Because of product specialization, rural businesses experience much market volatility. They also may experience massive economic dislocation because of shifts in the demand for or availability of the dominant product of the base economy.

In contrast to rural regions, metropolitan core regions are characterized by a diversity of business enterprise, with much product differentiation that makes possible high earnings for both capital and labor. High economic returns on business investment in metropolitan core regions supports high levels of investment per worker. Earnings per worker thus are high in metropolitan core regions relative to rural regions. Yet, the two contrasting types of regions are linked together as interdependent local economies because of their common product markets and input supply sources.

The gradual shift in the base economy of Minnesota from farming to manufacturing and producer services has increased the interdependence of regions as measured by the variety and volume of interregional trade between the Metropolitan Council Region and Greater Minnesota. Much of the base economy, represented by local industry output in excess of the corresponding level given by the US industry output mix, is linked to natural resources in Greater Minnesota, although the contribution of its human resources is of growing importance in value added manufacturing and related producer services. In the seven-county Metropolitan Council Region, technology-intensive manufacturing and high-order

services, both producer and consumer, are increasingly important basic industries.

Employment change sources for the Minnesota economy in the 1980s show strikingly different patterns in recession and recovery. During the 1980-82 recession period each of the three change sources--US growth, industry mix and Minnesota share of individual industry change--was negative overall. During the 1982-90 recovery, all change sources turned positive in total. Instead of losing 793 jobs, as shown by an adverse industry mix (that is, an above average proportion of below average growth industries) as in the 1980-82 period, Minnesota gained 19,677 jobs in the 1982-90 period. Also, the Minnesota employment share reversed itself from a loss of 54,354 jobs to the rest of US to a gain of 1,360 jobs from the rest of US. Overall, the Minnesota lost nearly 53 thousand jobs to the rest of US in the 1980s as shown by its strongly negative industry employment share effect in the recession period. A disproportionate share of industries engaged in major economic and organizational restructuring, including the concentration of early cut-backs in military purchases from Minnesota's technology-intensive industries, accounts for the slower pace of Minnesota's economic growth in the 1980s than the 1970s.

Projected employment change sources, while differing sharply from historical trends among individual industry groups, in the aggregate follow these trends. Because the effects of the 1991 recession are small compared with the long projected recovery to 2000, the overall growth of Minnesota industry is expected to marginally outpace US industry growth for the decade of the 1990s.

Total jobs, including self-employed workers, increased from 2.5 million in 1980 to 2.9 million in 1990. This total is expected to increase by approximately the same amount in the next 20 years as in the last 10 years with the slowest growth occurring in the post-2000 period.

Growth in total labor earnings also is projected to lag earlier rates of increase, but even more sharply than total jobs. The projected slowdown in the

growth of labor earnings per worker will accentuate the reduced rates of job growth projected for both the US economy and the Minnesota economy.

Farm jobs are expected to continue the 1980s trend (declining from 138.8 thousand in 1980 to 133.5 thousand in 1990) into the 1990s and beyond at a slightly faster pace. Projected farm worker earnings also lag nonfarm earnings per worker.

Wage and salary employment and earnings follow the overall patterns of lagging future growth compared to the corresponding industry performance in the 1980s. However, growth in wage and salary earnings is projected to outpace growth in total labor earnings in Minnesota, partly because of the adverse effect of lagging farm earnings on total labor earnings.

Three regional growth issues are presented that summarize the findings on regional employment and income growth and change and the opportunities for effective and successful government participation in state and local economic development. Each issue is addressed from the vantage point of economic base theory and its policy applications, starting with a region's economic base and its dominant role and importance in the region's economic future. The three issues range from strengthening the region's base economy to building local infrastructure and improving business and market information access--the critical contributions of state and local governments for improving the competitive position of local businesses in regional and global markets. Government participation in state and local economic development is probably warranted if it can pass one or more of the three tests represented by the three issue areas, namely, that the participation helps strengthen the state's base economy, or it helps build essential local and regional infrastructure, or it helps improve access to business information and know-how.

## MONITORING MINNESOTA'S ECONOMIC PERFORMANCE IN THE 1990s

Wilbur R. Maki  
University of Minnesota

Minnesota's economic performance for the purposes of this report is represented by period-to-period increases in jobs and real income. Increases in jobs and income are attributed to increases in economic activity, primarily production of goods and services that generates revenues for resource owners. The monitoring of Minnesota's economic performance starts with access to statistical measures of jobs and income and an analytical framework and tools for assessing Minnesota's economic growth options and outlook.

### Measuring Economic Performance

Measures of regional growth can be sorted into three broad categories--internal, external and intervening. The internal measures include the target variables--jobs and income--that are affected by local economic activity and the intervening variables and relationships. The external measures include industry-specific production of all products originating in the US and the markets for these products and their production inputs.

The response of individual businesses to improvements in productivity--measured by increases in output per hour worked--must be estimated, also, to more fully account for local changes in industry employment, earnings and productivity. Productivity per worker, especially in rural areas, is closely geared to investment per worker. For the small business enterprise, investment per worker is generally low, which results, in part, from limited access to export market information and related services.

Jobs, income--including labor earnings and property income, population and labor force are the principal economic and demographic indicators used and



presented in the tabular summaries accompanying this report. The principal analytical tools are regression analysis and shift-share analysis: one is explanatory, the other is simply expository. The regression analysis relates a series of independent, explanatory variables to changes in employment and income. In the shift-share analysis, change in industry-specific employment and labor earnings is attributed to three change sources--US growth, industry mix and regional share.

The US growth effect in the shift-share analysis is represented by change in total employment or labor earnings over all industries in the US while the industry mix is measured by differential change in industry-specific employment or labor earnings in the US economy. Overall US industry growth and change in industry mix account for the external determinants of regional change. The regional share effect is measured by the differential change--above or below the corresponding US industry rate of change--in industry-specific employment or labor earnings in a given region. It serves as an indicator of an industry's competitive position vis a vis the same industry in other regions.

In this report, the linkage between regional specialization in basic industry, interregional trade and economic growth is illustrated in a series of findings. The initial findings start with the gross state product of Minnesota and its disbursement in product and income and the excess industry output in the two trading regions--the seven-county Metropolitan Council Region and the 80 counties of Greater Minnesota. They continue with a presentation of forecasts and projections of the Minnesota economy in the 1990s and beyond. Comparison of the excess output calculations with actual industry exports and imports provides a measure of the extent to which regional specialization in basic industry is likely to increase the size of the local market for its trading partner. The University

of Minnesota 1985 IMPLAN (IMPact Analysis for PLANning) System is the source of the base year statistical series and analyses. Each supporting table is cited in the presentation of related findings.

The market-based Minnesota economy, including government enterprises, but excluding other government industry, accounted for 1,856,200 of the 2,086,300 total full-time equivalent jobs in the Minnesota economy in 1985, as shown in Table 1A. Employer outlays for wage and salary workers, shown as employee compensation, totaled to \$40 billion, while value added payments allocated to self-employed workers totaled to \$7.6 billion. Indirect business taxes based on industry output totaled to \$6.2 billion. The remaining \$15.4 billion of the \$66 billion in total value added charges against the 1985 Minnesota gross state product is attributed to other value added, namely, the income payments and allocations for capital investment and entrepreneurship in the market-based Minnesota economy. In addition, local intermediate input purchases were nearly \$38.2 billion, while purchases of intermediate imports were more than \$25.6 billion. Thus, intermediate input purchases accounted for \$83.8 billion of total outlays--only \$1.4 billion less than total value added.

The market distribution of Minnesota commodity output in 1985 is represented by individual final demand sector purchases in Table 1B. Minnesota commodity output purchases by Minnesota households, for example, totaled to \$34.4 billion. State and local government purchases of Minnesota commodity output--exclusive of government industry payroll of \$5.9 billion--totaled to \$3.6 billion, while business capital formation accounted for \$11 billion of the total output purchases. Thus, three of the five final demand sectors accounted for nearly \$49 billion of the \$57.8 billion of local final sales. In addition, commodity output disbursements to the intermediate demand sectors in the form of production input

purchases totaled to nearly \$39 billion. Federal government purchases and miscellaneous non-market disbursements totaled to nearly \$9 billion. Domestic and foreign exports accounted for \$32 billion of the remaining Minnesota commodity output disbursements.

Government sector commodity sales, inventory sales and interregional trade accounts derived from the Minnesota Micro-IMPLAN System are presented in Table 1C. They represent Minnesota balance of trade and payments in 1985. The final demand sector commodity sales are subtracted from the corresponding final demand sector purchases to obtain the dollar value of net purchases by the five final demand sectors cited earlier in Table 1B. The interregional trade accounts show the total commodity exports of individual industry groups, aggregated from the 528 industries in the 1985 Minnesota Micro-IMPLAN System, to foreign and domestic markets and the total commodity imports of each of the corresponding 57 commodity groups to intermediate and final demand sectors in the Minnesota economy.

The value of all excess industry output shipments to the Metropolitan Council Region and Greater Minnesota of specified industry output listed in Table 2 exceeded \$134 billion in 1985. An additional \$32 billion of regional industry output was shipped to markets outside Minnesota according to the excess output calculations. Metro to Greater Minnesota shipments exceeded \$5.9 billion while Greater Minnesota to Metro shipments exceeded \$3.3 billion.

Gross industry output of the 57 producing sectors is partitioned into two parts--local purchase and export--in Table 3 and Table 4. The value of imports to satisfy local requirements not met by local production is represented by deficit production. Thus, the total supply is equivalent to local purchase plus exports and imports. Local requirements may be more or less than total output depending upon the export status of the industry output.

Table 3 refers to the industry gross output allocations to local purchase and excess or deficit output based on the US industry output profile for the Metropolitan Council Region. The equivalent industry employment and industry value added charges associated with each of the industry output allocations are listed, also, for each industry. For example, the total regional industry output of \$79.6 billion is partitioned into two parts with local purchases accounting for \$58.5 billion and exports for nearly \$21.2 billion. Deficit industry output also totals to nearly \$21.2 billion, given the US industry output profile and the procedure for calculating excess and deficit output at the 528 industry level in the University of Minnesota Micro-IMPLAN System. However, the equivalent values for industry employment and value added charges will not balance as long as individual industry employment and value added ratios differ from one industry to the next.

The industry employment and value added charges associated with the excess output and deficit output industries in Greater Minnesota are summarized in Table 4. For Greater Minnesota, the excess output allocation of \$19.7 billion is almost as large as the Metro Region allocation, although the total industry output of \$56.5 billion is much smaller. Moreover, the total employment and the total value added allocations are slightly less for the excess industry output than the deficit industry output. Comparison with actual industry exports, if much smaller for Greater Minnesota than Metro Minnesota for some industries and larger for others, would provide a measure of the vertical integration of these industries, specifically, farming and food products manufacturing.

#### Economic Growth Options

The underlying framework for measuring and understanding Minnesota's economic performance that is adopted in this presentation stems from economic base

theory, namely, that a region's economic performance is conditioned by its export-producing sectors and the competitive position of its export-producing businesses in US and world markets. Much depends on the location of the export-producing businesses and the public and private infrastructure serving these businesses.

Export-producing businesses in rural regions are distinguished by dependence on natural resource-based industries producing standardized products that face stiff price competition in global markets. Because of product specialization, rural businesses experience much market volatility. They also may experience massive economic dislocation because of shifts in the demand for or availability of the dominant product of the base economy.

In contrast to rural regions, metropolitan core regions are characterized by a diversity of business enterprise, with much product differentiation that makes possible high earnings for both capital and labor. Because the largely non-standardized products, like business and professional services, are differentiated in both price and quality, their value to the buyer is often difficult to determine, which also contributes to high producer earnings.

High economic returns on business investment in metropolitan core regions supports high levels of investment per worker. Earnings per worker also are high in metropolitan core regions relative to rural regions. Yet, the two contrasting types of regions are linked together as interdependent local economies because of their common product markets and input supply sources.

Three regional growth issues are presented that summarize the findings on regional employment and income growth and change in the context of the study framework outlined earlier. Each issue is addressed from the vantage point of economic base theory and application, starting with a region's economic base and

its role and importance in the region's economic future. The three issues range from strengthening the region's base economy to building local infrastructure, and improving business and market information access.

#### Economic Base

Location in the context of economic competitiveness used here is much more than the geography of physical space. It includes, also, economic space and political space. It is the total local environment and its available human, natural and physical resources for successful business performance.

Much depends on the location of the region in the national and global economic communities and its internal and external relationships with all trading partners. Also important is the stage of development of its principal tradeable products, along with the ease and certainty of access for its residents to the newest technologies that transform future possibilities of business growth and development into likely successes.

For most natural resource-based rural areas, replacement of extreme dependence on industry specialization with a more diverse base economy is unlikely. Especially the peripheral rural areas are overwhelmingly dependent on the utilization of local natural resources--productive, renewable agricultural and forest lands and nonrenewable mineral deposits.

Transitional rural areas are the exceptions to the overall pattern of continuing industry specialization: they are close enough to the metropolitan core area to gain new industry, particularly new businesses of industries branching from the metropolitan core area to low cost sites in contiguous rural areas. Also, a new, diverse base economy is emerging in many transitional rural areas because of metropolitan core area businesses subcontracting with transitional area businesses. Thus, transitional rural areas are likely to

experience high income growth and high income volatility--at least from current year levels--and, also, high business volatility because of branching and subcontracting relative to the peripheral areas.

Metropolitan areas, unless marked by negative industry mix and negative regional share values in a highly specialized base economy, generally are the fastest growing in labor earnings. At the same time, income volatility may range from the lowest to among the highest. A high degree of dependency on a specialized base economy would still sustain high income growth because of the comparative advantage of its base industries in export markets. Business volatility is usually high in metropolitan areas (Reynolds and Maki, 1990).

For the purposes of this report, individual areas were assigned to one of two types of export-producing industry clusters--those producing a standardized and readily tradeable product, like No. 2 corn, and those producing a non-standardized less readily tradeable product, like information services. Peripheral areas dominate the first cluster--sharing part of the cluster with transitional rural areas--and the metropolitan areas dominate the second cluster, but also sharing part of its cluster with transitional rural areas. Successful strategies for maintaining and improving on existing business locations, products and technologies would thus differ for the two types of industry clusters. Government intervention would be limited primarily to the maintenance of a favorable economic environment as represented by its support of key public institutions, like education and health care and critical physical infrastructure, like highway and air transportation and access to telecommunications facilities and resources.

Every base economy is strengthened by its support industries that produce goods and services for other local industries and the local final markets. Local

industries purchasing semi-finished products, or products by-passing retail outlets, are the intermediate markets while households, businesses and governments purchasing finished products are the final markets.

The location attributes for support industries are simple: their markets are local. Any excess product demand is filled by imports. Hence, economies of scale in production and production know-how are the critical limiting factors facing entrepreneurial efforts in establishing strongly competitive new business ventures tapping into existing local markets. The base economy, however, limits the number and size of support industries since the support industries do not directly bring new dollars into the locality.

Market and product studies of deficit-supply industries can start with simple calculations of likely deficit (rather than excess) labor earnings, as shown earlier in Table 3 and Table 4. However, the actual targeting of new support industry opportunities for new business development inevitably involves a detailed breakdown of the two-digit industry groupings into three-digit and four-digit industry groupings. The technical capabilities for accomplishing this task in the behalf of business clients now exists in detailed four-digit, county-level computer-accessible interindustry transactions tables and related computer software (Maki, 1989). Industry search technologies heretofore unavailable for small businesses are now affordable and accessible by these businesses (Maki and Baxter, 1990).

#### Local Infrastructure

Building local infrastructure, as a regional issue, has much currency in legislative committees because of the opportunity it offers local representatives for "bringing home the bacon." Numerous studies show a high correlation between public infrastructure expenditures and the profitability of business investment



(Aschauer, 1991). The findings usually are well received in legislative circles, even though the studies are highly aggregated in nature and the assumed causal relationship, if any, is questionable.

Nonetheless, an important attribute of an optimal location for a business enterprise is the local infrastructure--the physical facilities and economic resources shared, in varying degree, by all local businesses (Porter, 1990). For the most part, the local infrastructure is in the public sector, although it includes important quasi-private and private enterprise, namely, the regulated industries--transportation, communications and public utilities--and banking, finance and insurance companies, management and consulting agencies, and research and development laboratories.

Each industry cluster has its own unique infrastructure requirements, depending upon the character and status of the local base economy. Location of the industry cluster in the regional settlement system also affects the infrastructure requirements of local businesses.

Because of large and often unexpected changes in the base economies of many areas--both peripheral and transitional, the past is less and less a reliable guide for the future. Justification for building local infrastructure rests, on an extensive and realistic appraisal of the continuing viability of the local base economy, which, more likely than not, will experience large changes in overall industry activity.

#### **Information Access**

Improving access to decision information by the residents of a region is of over-riding importance in the consideration of each of the previously presented regional issues. It is an integral part of the building of local infrastructure.

Key sectors for improving local access to information include state and

local educational institutions and related community functions, such as city and neighborhood libraries and social centers. Information partnerships that involve local businesses and community leaders, as well as state and local governments, can become active participants in improving access to decision information. Moreover, improved access to information facilitates the learning process in the building of a shared vision of a region's future (Senge, 1990).

Information production, distribution, interpretation and use are essential functions of education and research institutions. Despite the prominence of these institutions, lack of access to information may still limit local business expansion and development.

Thus, the promoting of regional growth is severely constrained in its successful implementation. The realities of business location, industry product cycles and access to new product and process technologies can remain pervasive in their overall constraining influences on regional growth. Strategies for successful public intervention in regional growth processes that effectively relax these constraining influences, apart from the traditional functions of state and local governments in building local and regional infrastructure, are generally lacking. Nonetheless, government participation in state and local economic development is probably warranted if it can pass one or more of the three tests represented by the three issue areas, namely, that the participation helps strengthen the state's base economy, or it helps build essential local and regional infrastructure, or it helps improve access to business information and know-how.

#### Economic Outlook

The gradual shift in the base economy of Minnesota from farming to manufacturing and producer services has increased the variety and volume of

interregional trade between the Metropolitan Council Region and Greater Minnesota. Much of the base economy, represented by local industry output in excess of the corresponding level given by the US industry output mix, is linked to natural resources in Greater Minnesota, although the contribution of its human resources is of growing importance in value added manufacturing and related producer services. In the seven-county Metropolitan Council Region, technology-intensive manufacturing and high-order services, both producer and consumer, are increasingly important basic industries.

Thus far, the industry sources of interregional trade and the related employment and earnings have been documented for the 1985 base year industry activities in the Metropolitan Council Region and Greater Minnesota. The base year findings are now followed by a series of economic projections of the Minnesota economy to the target year 2000 and, also, 2010. All baseline projections are derived from corresponding projections of (1) the US economy prepared by the US Department of Labor, Bureau of Labor Statistics and (2) the Minnesota economy prepared by the US Department of Commerce, Office of Business Economics. All projection series are keyed to the wage and salary employment series published periodically by the US Department of Commerce, which, in turn, are prepared from the ES-202 covered (by the cooperative federal-state Unemployment Insurance Program) employment and payroll files maintained by the Minnesota Department of Jobs and Training.

Employment change sources, presented again in Table 5 for the Minnesota economy in the 1980s, show strikingly different patterns in recession and recovery. During the 1980-82 recession period each of the three change sources--US growth, industry mix and Minnesota share of individual industry change--was negative overall. During the 1982-90 recovery, all changes sources

turned positive in total. Instead of losing 793 jobs because of an adverse industry mix in the 1980-82 period (that is, an above average proportion of below average growth industries), Minnesota gained 19,677 jobs in the 1982-90 period. Also, the Minnesota employment share reversed itself from a loss of 54,354 jobs to the rest of US to a gain of 1,360 jobs from the rest of US. Overall, the Minnesota lost nearly 53 thousand jobs to the rest of US in the 1980s as shown by its strongly negative industry employment share effect in the recession period.

Projected employment change sources shown in Table 6, while differing sharply from historical trends among several individual industry groups, generally follow the historical trends. Because the effects of the 1991 recession are small compared with the long projected recovery to 2000, the overall growth of Minnesota industry is expected to marginally outpace US industry growth.

A 25-year outlook for the Minnesota economy from the 1985 base year is presented for wage and salary employment in Table 7. Overall, the 25-year outlook shows a small net gain in employment due to an overall positive employment share effect. However, relative change (industry mix effect + Minnesota share effect) is negative as shown by the large negative industry mix effects. The latter is due to the disproportionately large share of below-average growth manufacturing industry in Minnesota. The manufacturing sector in the US lags the service sector in the rates of growth in employment and labor earnings in US Bureau of Labor Statistics and US Department of Commerce projection series.

The market disposition of industry output in the Metropolitan Council Region and Greater Minnesota--based on industry employment measures--is summarized in Table 8. Total industry employment in the Minnesota economy in 1985 and 2010 provides the base for the estimates of employment disposition to exports, shown as excess employment, and own use, the sum of which equals total resident industry

employment. Imports are associated with deficit employment. The bottom line, in this case, shows a relative decline in the allocation of Minnesota industry employment between own requirements and exports from 1985 to 2010.

The relative importance of each industry, as represented by its total employment, in each market is summarized in Table 9. For example, farm employment associated with farm exports is projected to drop from 23.7 percent of total excess employment in 1985 to 19.2 percent of total excess employment in 2010. Manufacturing excess employment which underestimates manufacturing exports in the Table 8 and Table 9 calculations, is nonetheless expected to increase from 32.3 percent of the total to 36.5 percent of the total.

Industry employment and labor earnings trends highlighted earlier are summarized in Table 10. They show a steady but modest growth in total employment and total labor earnings. Total jobs, including self-employed workers, increased from 2.5 million in 1980 to 2.9 million in 1990. Total jobs are expected to increase by approximately the same amount in the next 20 years as in the last 10 years with the slowest growth occurring in the post-2000 period.

Growth in total labor earnings also is projected to lag earlier rates of increase, but even more sharply than total jobs. The projected slowdown in the growth of labor earnings per worker will accentuate the reduced rates of job growth projected for both the US economy and the Minnesota economy.

Farm jobs are expected to continue the 1980s trend (declining from 138.8 thousand in 1980 to 133.5 thousand in 1990) into the 1990s and beyond, but at a slightly faster pace. Projected farm worker earnings also lag nonfarm earnings per worker.

Wage and salary employment and earnings follow the overall patterns of lagging future growth compared to the corresponding industry performance in the

1980s. However, growth in wage and salary earnings is projected to outpace growth in total labor earnings in Minnesota, partly because of the adverse effect of lagging farm earnings on total labor earnings.

Finally, the calculation of the personal income series is extended to disposable income and personal consumption expenditures in Table 11. The accompanying projections of direct personal taxes are combined with the indirect business tax projections for IMPLAN in projecting federal government and state and local government purchases of commodity outputs. The personal income projection series are available for comparing the personal income consequences of the increases in interregional trade associated with alternative regional futures for the Minnesota economy. Subsequent reports will document contributions of individual substate regions industries to present and projected changes in regional income and product accounts.

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## APPENDIX

## Measuring Minnesota Industry Output, Employment and Income

The total commodity output of the Minnesota industry in the 1985 base year exceeded \$142 billion. Minnesota industry contribution to the Gross National Product--the sum total of final net purchases of US commodity production -- exceeded \$72 billion. Each of these estimates is documented in the bottom line of Table 1 (A, B and C) series included in this Appendix.

The University of Minnesota 1985 IMPLAN (IMPact Analysis for PLANning) System is the source of the base year statistical series and analyses. US and Minnesota income product accounts for base year and target years were prepared as part of the Micro-IMPLAN Social Accounting Matrix (SAM). The National Income and Income Accounts (NIPA) and the individual State Income and Products Accounts (SIPA) include three summary tables used in this report, as follows:

- Table 1.A. Total employment, value added (1985\$) and other payments in 57-industry IMPLAN model: MN, 1985,
- Table 1B. Total commodity output, intermediate and final demand (1985\$) for specified commodity groups in MN, 1985,
- Table 1C. Gross commodity production net commodity supply and domestic and foreign trade (1985\$) in specified commodity 57-industry IMPLAN model, MN, 1985.

In Table 1A, industry gross output is equivalent to industry outlays for primary inputs (value added) local intermediate inputs and imports of intermediate inputs. The industry outlays are charges against final sales, as represented in the next two tables.

The market distribution of the \$141.6 billion of Minnesota commodity output in 1985 is represented by individual final demand sectors in Table 1B. Purchases of Minnesota commodity output for the personal consumption of Minnesota households, state and local government purchases, and business capital formation accounted for nearly \$62 billion of Minnesota commodity purchases. In addition commodity output disbursements as production input purchases among the 57 industries totaled to \$39 billion. State, local and federal government purchases and miscellaneous non-market disbursements totaled to nearly \$11 billion. Domestic and foreign exports accounted for the remaining \$40 billion of total Minnesota commodity output disbursements.

Government sector commodity sales, inventory sales and interregional trade accounts derived from the Minnesota Micro-IMPLAN System are presented in Table 1C. They represent Minnesota balance of trade and payments in 1985. The final demand sector commodity sales are subtracted from the corresponding final demand sector purchases to obtain the dollar value of net purchases by the five final demand sectors listed in Table 1A. The interregional trade accounts show the total commodity exports of individual industry groups, aggregated from the 528 industries in the 1985 Minnesota Micro-IMPLAN System, to foreign and domestic markets and the total commodity imports of each of the corresponding 57 commodity groups to intermediate and final demand sectors in the Minnesota economy.

Minnesota income payments to resource owners (represented by the industry value added account), purchases of intermediate products from Minnesota industry suppliers and imports from out-of-state suppliers equal the value of industry gross output summarized for the 57 industry groups in Table 1C.

The percentage distribution of gross exports--foreign and domestic--in Table 1C, when compared with the percentage distribution of excess jobs in Table 8, provides a measure of the importance local intermediate markets for those industries with excess jobs. For example, farm exports in 1985 were 8.2 percent of total exports in value. Excess farm jobs, however, were 23.7 percent of total excess jobs. Food and kindred products exports in comparison, were 16.2 percent of total exports while its excess jobs were only 4.8 percent of the total. The combined exports of farm and food products manufacturing were 24.4 percent of total jobs.

Farm jobs overstate their relative importance in the base economy because of their below-average earnings. Use of excess earnings rather than excess jobs would make the two percentage series more nearly alike. The projected excess job series exaggerate even more the relative importance of the farm sector in the base economy.

All baseline projections (Table 5 to Table 11) are derived from corresponding projections of (1) the US economy prepared by the US Bureau of Labor Statistics and (2) the Minnesota economy prepared by the US Department of Commerce, Office of Business Economics. All projection series are keyed to the wage and salary employment series published periodically by the US Department of Commerce, which, in turn, are prepared from the ES-202 covered (by the cooperative federal-state Unemployment Insurance Program) employment and payroll files maintained by the Minnesota Department of Jobs and Training.



Table 1A. Total employment, value added (\$1985) and other payments  
For the State of Minnesota model: 1985

Sector No.	Title	SIC	Employment (Jobs)	Value Added payments by local industry					Intermed. Inputs	Total Imports	Total Industry Output
				Employee Compens.	Indirect Bus. Tax	Proprietor Inc	Other Income	Total			
			(no.)	(mil.\$)	(mil.\$)	(mil.\$)	(mil.\$)	(mil.\$)	(mil.\$)	(mil.\$)	
1	Farm	01,02	100643.6	228.7	117.9	1904.1	434.9	2685.5	2672.7	2556.1	7914.3
2	Agricultural services	07-09	13642.8	147.4	13.8	78.1	-20.2	219.1	104.5	62.1	385.7
3	Metal mining	10	7603.0	242.9	116.6	24.9	328.4	712.8	476.7	451.4	1641.0
4	Coal mining	11,12	43.9	2.2	0.0	0.0	0.6	2.8	1.1	1.9	5.7
5	Oil and gas extractio	13	1036.7	6.3	4.2	0.7	11.2	22.5	19.3	10.1	51.9
6	Nonmetallic minerals,	14	1584.4	58.4	6.1	2.2	28.8	95.5	31.7	29.7	156.9
7	Construction	15-17	98396.8	2098.7	65.9	747.0	387.0	3298.6	2058.0	2142.5	7499.1
8	Food and kindred prod	20	42295.1	1175.6	93.7	2.9	654.3	1926.5	5671.2	2285.5	9883.2
9	Tobacco manufactures	21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	Textile mill products	22	2039.3	42.0	1.9	3.4	9.2	56.5	50.5	89.5	196.4
11	Apparel and other tex	23	4187.9	42.2	0.3	5.0	3.9	51.5	39.9	72.1	163.4
12	Lumber and wood produ	24	14725.4	372.7	9.9	18.6	56.5	457.7	345.9	470.1	1273.7
13	Furniture and fixture	25	4800.2	106.6	2.8	3.4	31.2	144.0	84.5	101.1	329.7
14	Paper and allied prod	26	32352.6	1294.2	49.2	0.3	595.4	1939.1	1132.4	1947.3	5018.8
15	Printing and publishi	27	41445.2	1056.6	35.7	24.6	443.0	1559.9	851.9	966.7	3378.5
16	Chemicals and allied	28	8521.6	269.4	12.9	0.1	188.4	470.7	536.2	449.9	1456.9
17	Petroleum and coal pr	29	1611.4	58.1	93.5	0.1	122.4	274.1	251.2	807.4	1332.8
18	Rubber and miscellane	30	11685.5	283.3	4.1	0.4	97.9	385.7	299.8	347.1	1032.6
19	Leather and leather p	31	1900.5	44.2	0.8	0.0	12.4	57.4	49.2	27.4	134.0
20	Stone, clay, and glas	32	9523.4	228.8	24.4	3.5	114.4	371.1	188.2	253.1	812.4
21	Primary metal industr	33	5987.9	169.6	10.2	1.7	44.6	226.0	136.4	178.7	541.1
22	Fabricated metal prod	34	35821.3	1153.2	35.8	9.3	372.6	1570.9	618.8	1085.9	3275.6
23	Machinery, except ele	35	90254.0	3064.9	79.2	5.7	380.1	3529.9	3712.4	2441.6	9683.9
24	Electric and electron	36	27547.3	738.0	18.3	0.6	30.8	787.7	766.7	635.9	2190.3
25	Transportation equipm	37	3363.2	71.0	0.7	1.8	23.7	97.3	57.2	107.0	261.5
26	Motor vehicles and eq	371	4042.7	167.3	35.5	0.7	89.5	292.9	198.2	520.6	1011.7
27	Instruments and relat	38	27254.8	864.1	18.1	0.3	274.9	1157.4	527.9	497.7	2183.0
28	Miscellaneous manufac	39	7431.4	135.9	9.3	6.0	40.2	191.3	115.1	124.8	431.2
29	Railroad transportati	40	8731.7	385.0	16.6	0.0	46.4	448.0	185.8	124.8	758.6
30	Local and interurban	41	7816.0	95.7	2.3	16.9	36.1	151.0	63.5	35.2	249.7
31	Trucking and warehous	42	34880.0	775.0	80.6	438.0	196.1	1489.7	449.6	208.0	2147.4
32	Water transportation	44	1314.7	36.5	4.6	12.7	10.8	64.5	96.6	58.3	219.5
33	Transportation by air	45	14540.9	567.1	62.8	0.2	204.9	835.0	457.4	424.6	1717.0
34	Pipelines, except nat	46	176.5	8.3	2.2	0.0	29.2	39.6	21.5	9.3	70.4
35	Transportation servic	47	5995.1	106.0	3.6	12.9	38.3	160.7	67.6	14.3	242.6
36	Communication	48	18961.4	639.1	179.6	10.8	561.8	1391.3	398.6	178.5	1968.4
37	Electric, gas, and sa	49	15297.8	557.5	246.1	101.3	1068.2	1973.1	768.5	1043.8	3785.5
38	Wholesale trade	50-51	116162.7	3454.2	888.5	269.1	732.9	5344.6	1557.5	472.3	7374.4
39	Retail trade	52-59	330118.6	4371.0	1141.4	626.7	737.4	6876.6	3732.2	1233.2	11841.9
40	Banking and credit ag	60,61	46233.9	1110.4	71.1	3.3	198.0	1382.8	535.3	177.8	2096.0
41	Holding companies and	62,67	8760.0	400.3	14.5	73.3	0.4	488.4	265.6	66.6	820.6
42	Insurance	63,64	48446.9	1114.9	151.9	156.6	-68.7	1354.6	1540.7	229.6	3124.8
43	Real estate	65,66	54807.0	338.4	2235.0	1124.6	5963.0	9661.0	1834.7	325.6	11821.3
44	Hotels and other lodg	70	23510.0	280.1	45.5	7.2	100.0	432.8	215.6	72.2	720.7
45	Personal services	72	46904.8	325.1	8.8	298.1	51.5	681.5	204.8	101.3	987.7
46	Business and miscella	73,76	101857.4	1509.8	66.6	481.8	291.4	2349.6	715.5	308.5	3373.6
47	Auto repair, services	75	21781.2	305.4	45.4	196.8	170.4	718.0	419.2	344.3	1481.6
48	Amusement and recreat	78-79	26824.7	270.2	29.8	37.6	32.2	369.9	315.9	112.9	798.7
49	Health services	80	135632.7	3016.6	19.2	333.0	276.6	3645.3	1543.0	604.7	5792.9
50	Legal services	81	16723.1	452.0	1.4	317.8	35.7	806.9	189.0	57.6	1053.5
51	Educational services	82	29348.4	376.5	3.9	23.6	7.0	411.0	247.0	77.5	735.5
52	Social services and m	83,84,86	62476.4	961.9	1.7	6.8	4.3	974.7	526.1	202.3	1703.1
53	Private households	88	14549.6	92.6	0.0	0.0	62.7	155.2	0.0	0.0	155.2
54	Miscellaneous profess	89	38486.7	593.8	17.1	250.0	56.9	917.7	401.8	132.5	1452.0
55	Federal government	na	14100.4	478.7	0.0	0.0	-84.6	394.1	193.9	77.7	665.8
56	State and local gover	na	12059.7	312.0	0.0	0.0	-38.7	273.2	369.5	152.3	795.0
57	Noncomparable imports	na	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
58	Scrap, secondhand and	na	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
59	Government industry	90	230084.9	6296.5	0.0	0.0	4264.0	10560.5	0.0	0.0	10560.5
60	Rest of World; Invent	na	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
61	Total		2086325.3	43350.7	6200.8	7644.3	19740.0	76935.7	38314.3	25509.1	140759.1
62	Agriculture	8-9	114286.4	376.1	131.7	1982.3	414.6	2904.6	2777.3	2618.2	8300.1
63	Mining	10-14	10268.0	309.8	127.0	27.8	369.0	833.5	528.9	493.2	1855.5
64	Construction	15-17	98396.8	2098.7	65.9	747.0	387.0	3298.6	2058.0	2142.5	7499.1
65	Manufacturing	20-39	376790.8	11337.8	536.2	88.3	3585.4	15547.7	15633.6	13409.4	44590.6
66	Non-durable goods	20-3,26-31	146039.2	4265.6	292.1	36.7	2126.9	6721.3	8882.3	6992.9	22596.5
67	Durable goods	24-5,32-9	230751.6	7072.2	244.1	51.5	1458.5	8826.4	6751.3	6416.5	21994.1
68	Transportation and pu	40-2,44-9	107714.1	3170.2	598.3	592.7	2191.7	6553.0	2509.2	2096.8	11159.0
69	Trade	50-59	446281.4	7825.2	2029.9	895.8	1470.3	12221.2	5289.7	1705.4	19216.4
70	Finance, insurance, a	60-67	158247.9	2963.9	2472.5	1357.8	6092.7	12886.8	4176.2	799.6	17862.6
71	Services	70-86,89	503545.3	8089.4	239.3	1952.7	1025.9	11307.3	4778.0	2014.0	18099.3
72	Government		256244.9	7087.1	0.0	0.0	4140.7	11227.8	563.5	230.0	12021.3

Source: Based on University of Minnesota 1985 Micro-IMPLAN (IMPact Analysis for PLANing) System

Table 18. Total commodity output, intermediate demand and local final demand purchases (\$1985)  
For the State of Minnesota model: 1985

Sector No.	Title	SIC	Total Commodity Output (mil.\$)	Inter- mediate Demand (mil.\$)	Personal Consumption			State Government		Federal Governmt		Inventory Add.'s (mil.\$)	Capital Formatn (mil.\$)	Local Final Demand (mil.\$)
					Low	Medium	High	Non-educ	Educat	Non-mil	Military			
1	Farm	01,02	7564.5	3905.2	32.4	59.4	50.9	25.0	4.3	0.0	0.0	52.0	0.0	223.9
2	Agricultural	07-09	561.4	322.8	3.8	6.1	5.4	2.0	8.5	0.0	0.0	0.2	0.0	26.1
3	Metal mining	10	1808.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0
4	Coal mining	11,12	5.8	2.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
5	Oil and gas	13	49.6	48.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6	Nonmetallic	14	162.2	6.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	Construction	15-17	7499.3	1023.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.3
8	Food and kin	20	10266.5	1651.2	325.9	690.5	558.5	151.6	1133.4	63.0	108.1	0.0	4855.6	6380.7
9	Tobacco manu	21	4.2	0.0	0.0	0.0	0.0	32.0	4.6	3.2	3.2	50.1	0.0	1816.4
10	Textile mill	22	162.1	30.5	2.3	6.6	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
11	Apparel and	23	217.4	41.3	24.4	65.2	75.3	0.1	0.2	0.0	0.0	0.0	0.0	17.2
12	Lumber and w	24	1256.3	387.7	2.0	3.8	3.9	0.2	5.0	0.1	0.2	0.8	0.0	171.0
13	Furniture an	25	337.9	19.9	8.9	24.3	25.6	1.2	0.6	0.2	0.0	10.9	0.2	22.7
14	Paper and al	26	4855.7	508.8	1.8	2.8	1.7	63.1	10.6	0.5	0.5	0.3	156.8	290.7
15	Printing and	27	2201.5	262.2	18.0	38.5	39.2	1.1	3.2	2.7	0.0	1.1	0.0	14.4
16	Chemicals an	28	1645.6	737.8	75.0	130.9	90.9	176.0	18.4	0.7	5.9	0.6	0.0	297.2
17	Petroleum an	29	1253.6	753.8	61.1	158.8	124.8	5.0	21.2	12.9	0.8	5.4	0.2	342.3
18	Rubber and m	30	1062.3	4.3	0.0	0.1	0.0	19.0	43.9	8.6	0.0	1.9	0.0	418.1
19	Leather and	31	134.8	20.6	9.6	25.6	26.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
20	Stone, clay,	32	775.1	82.7	0.9	3.2	5.4	0.0	0.3	0.0	0.0	2.2	0.0	63.7
21	Primary meta	33	548.3	72.1	0.0	0.0	0.0	0.7	4.6	0.0	0.0	1.4	0.0	16.2
22	Fabricated m	34	3194.4	387.6	3.6	8.6	6.9	0.0	0.1	0.0	0.2	0.0	0.0	0.4
23	Machinery, e	35	9483.8	1653.3	8.7	21.1	24.6	15.4	1.1	2.3	0.1	3.0	11.2	52.2
24	Electric and	36	2553.8	930.0	19.8	51.2	51.0	96.4	22.0	185.2	57.4	17.6	3710.3	4143.4
25	Transportati	37	321.9	7.1	0.3	1.0	2.6	17.0	9.8	54.2	26.9	10.4	373.5	613.8
26	Motor vehicl	371	1052.6	84.2	20.3	84.0	105.5	0.1	0.1	6.0	0.2	0.0	2.1	12.5
27	Instruments	38	2079.4	301.0	11.3	29.7	31.5	1.2	9.8	0.6	0.2	3.0	67.1	291.7
28	Miscellaneous	39	410.1	8.7	3.1	8.9	8.2	17.2	37.9	42.7	11.2	18.3	627.1	826.9
29	Railroad tra	40	759.9	432.0	3.6	8.4	8.4	4.7	1.3	0.1	0.0	0.0	5.6	32.0
30	Local and in	41	326.1	91.1	13.6	24.5	22.0	1.6	3.9	1.4	2.5	3.0	0.0	35.9
31	Trucking and	42	2068.1	1044.6	11.5	22.3	34.4	165.4	7.0	0.5	0.0	0.0	0.0	233.0
32	Water transp	44	232.0	142.0	1.8	6.3	11.3	10.6	16.5	14.4	0.3	7.7	65.8	183.5
33	Transportati	45	1773.2	449.0	94.9	225.3	406.2	0.7	2.4	17.6	0.0	0.4	0.0	40.5
34	Pipelines, e	46	70.4	30.3	10.0	15.0	8.9	17.2	23.9	5.6	19.0	1.1	0.0	793.2
35	Transportati	47	178.9	84.0	18.9	31.7	20.9	1.0	1.8	0.0	0.0	0.5	0.0	37.2
36	Communicatio	48	1556.4	739.7	142.4	307.1	242.5	0.0	0.6	1.5	0.0	0.0	0.0	73.5
37	Electric, ga	49	4262.4	2615.4	269.2	563.8	485.6	26.6	25.2	0.4	1.7	0.0	44.6	790.5
38	Wholesale tr	50-51	7374.4	3325.3	506.7	763.5	452.0	67.7	102.3	8.1	0.3	0.0	0.0	1496.9
39	Retail trade	52-59	11981.4	1570.5	2068.1	3561.2	2619.1	47.0	67.9	55.3	7.2	45.5	469.5	2414.4
40	Banking and	60,61	2063.8	1466.7	46.9	202.7	223.2	0.3	42.0	8.6	0.6	0.1	444.5	8744.4
41	Holding comp	62,67	831.7	41.4	42.8	155.5	395.4	0.0	65.2	0.0	0.1	0.0	0.0	538.0
42	Insurance	63,64	3093.6	1057.2	288.2	677.9	617.1	0.0	29.3	0.0	0.0	0.0	0.0	623.1
43	Real estate	65,66	11969.4	3980.9	1439.0	2885.6	1945.6	26.3	2.0	0.1	1.9	0.0	0.0	1613.4
44	Hotels and o	70	749.6	343.4	46.5	115.9	211.3	2.7	109.9	23.0	2.7	0.0	294.8	6703.3
45	Personal ser	72	986.6	83.8	151.2	254.8	214.3	3.1	28.1	0.0	0.4	0.0	0.0	405.3
46	Business and	73,76	5068.8	3949.4	53.9	110.0	141.3	19.0	2.3	1.1	0.1	0.0	0.0	642.8
47	Auto repair,	75	1492.9	600.9	113.4	359.6	338.7	41.5	84.6	51.4	138.3	0.0	0.0	621.1
48	Amusement an	78-79	810.9	207.0	47.9	145.0	217.8	1.5	19.0	0.4	0.1	0.0	0.0	832.6
49	Health servi	80	5821.2	174.1	1116.9	1893.5	1523.0	69.3	0.7	0.3	0.4	0.3	0.0	481.7
50	Legal servic	81	1053.5	745.5	44.7	67.3	138.7	0.0	62.9	0.5	8.6	0.0	0.0	4605.4
51	Educational	82	742.6	29.2	81.2	202.2	321.6	4.5	46.8	0.0	0.0	0.0	0.0	302.0
52	Social servi	83,84,86	1697.7	42.3	99.8	329.3	446.1	52.5	0.3	1.7	28.0	0.0	0.0	687.6
53	Private hous	88	155.2	0.0	18.6	69.2	67.5	0.0	0.0	0.5	7.2	0.0	0.0	959.3
54	Miscellaneous	89	1429.3	1200.7	17.3	40.7	65.4	0.0	0.0	0.0	0.0	0.0	0.0	155.2
55	Federal gove	na	639.0	479.4	17.2	38.7	43.4	5.2	32.9	15.9	14.9	0.0	0.0	192.4
56	State and lo	na	216.5	55.2	46.3	69.7	41.3	0.2	16.8	0.0	1.4	0.0	0.0	117.7
57	Noncomparabl	na	0.0	0.0	0.0	0.0	0.0	1.5	1.3	1.1	0.1	0.0	0.0	161.3
58	Scrap, secon	na	141.7	76.6	2.2	3.4	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
59	Government i	90	10560.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6
60	Rest of Worl	na	0.0	0.0	0.0	0.0	0.0	3477.9	2433.7	1421.2	105.3	0.0	0.0	7438.1
61	Total		141574.2	38314.3	7447.8	14570.6	12513.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
62	Agriculture	8-9	8125.8	4228.0	36.2	65.4	56.3	4937.3	4597.5	2014.9	556.2	238.1	11131.7	58008.0
63	Mining	10-14	2026.1	60.6	0.0	0.0	0.0	26.9	12.8	0.0	0.0	52.2	0.0	250.0
64	Construction	15-17	7499.3	1023.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	3.0	3.4
65	Manufacturin	20-39	43817.2	7944.9	597.1	1355.0	1189.7	220.6	1133.4	63.0	108.1	0.0	4855.6	6380.7
66	Nondurable 20-3,26-31		21803.7	4010.5	518.0	1119.0	924.5	570.1	221.9	321.3	106.9	127.1	4954.0	9443.0
67	Durable goo 24-5,32-9		22013.5	3934.4	79.0	236.0	265.2	353.0	124.1	29.5	10.1	62.1	0.2	3140.5
68	Transportati 40-2,44-9		11225.3	5628.2	565.7	1204.5	1243.2	217.1	97.8	291.8	96.8	65.0	4953.8	6302.5
69	Trade	50-59	19355.9	4895.8	2574.8	4324.7	3071.1	290.9	183.6	49.5	23.8	12.7	110.3	3684.2
70	Finance, ins	60-67	17958.5	6546.3	1816.9	3921.8	3181.2	47.3	109.9	63.8	7.8	45.6	913.9	11158.8
71	Services	70-86,89	19853.1	7376.4	1772.7	3518.4	3618.3	29.0	206.4	23.0	4.7	0.0	294.8	9477.8
72	Government		11416.1	534.6	63.5	108.4	84.7	273.0	277.6	71.8	198.1	0.3	0.0	9730.2
								3479.5	2451.8	1422.3	106.8	0.0	0.0	7717.1

Source: Based on University of Minnesota 1985 Micro-IMPLAN (IMPACT Analysis for PLANING) System

Table 1C. Gross commodity production, net commodity supply and domestic and foreign trade (\$1985)  
For the State of Minnesota model: 1985

Sector No.	Title	SIC	Gross Commodity Productn (mil.\$)	Less: Foreign Exports (mil.\$)	Plus: Commodity Sales (mil.\$)			Equals: Net Com. Supply (mil.\$)		Domestic Export (mil.\$)	Foreign Export (mil.\$)	Imports Intermed Demand (mil.\$)	Imports Final Demand (mil.\$)	Net Exports (mil.\$)
					S&L	Govt	Fed Govt.	Inventory	Supply					
1	Farm	01,02	7388.2	550.6	0.0	0.0	176.2	7013.9	2884.8	550.6	1520.0	211.2	1704.2	
2	Agricultural services	07-09	527.8	6.1	30.5	3.0	0.1	555.3	206.4	6.1	252.7	52.0	-92.1	
3	Metal mining	10	1641.0	312.9	0.0	0.0	167.5	1495.6	1489.6	312.9	116.3	0.9	1685.3	
4	Coal mining	11,12	5.8	0.8	0.0	0.0	0.0	5.0	2.0	0.8	347.6	9.2	-354.0	
5	Oil and gas extractio	13	49.6	0.8	0.0	0.0	0.0	48.8	0.3	0.8	1047.5	0.5	-1046.8	
6	Nonmetallic minerals,	14	159.5	2.6	2.7	0.0	0.0	159.6	153.1	2.6	76.5	0.6	78.7	
7	Construction	15-17	7499.1	1.2	0.0	0.0	0.1	7498.1	94.4	1.2	686.3	623.8	-1214.6	
8	Food and kindred prod	20	10225.0	386.6	0.7	13.7	27.1	9879.9	6412.4	386.6	1043.4	1270.5	4485.1	
9	Tobacco manufactures	21	4.2	0.0	0.0	0.0	0.0	4.2	4.1	0.0	0.0	312.0	-307.9	
10	Textile mill products	22	161.3	3.3	0.0	0.0	0.8	158.8	111.1	3.3	310.4	171.9	-367.9	
11	Apparel and other tex	23	217.0	5.0	0.0	0.0	0.4	212.3	0.0	5.0	101.1	914.6	-1010.6	
12	Lumber and wood produ	24	1255.4	24.1	0.0	0.0	0.8	1232.1	821.8	24.1	593.8	71.4	180.8	
13	Furniture and fixture	25	335.9	7.1	0.0	0.0	2.0	330.8	20.1	7.1	14.0	318.6	-305.4	
14	Paper and allied prod	26	4855.6	110.4	0.0	0.0	0.1	4745.3	4222.1	110.4	2017.2	253.1	2062.1	
15	Printing and publishi	27	2199.8	54.4	0.0	1.6	0.0	2147.1	1587.7	54.4	595.4	294.2	752.4	
16	Chemicals and allied	28	1641.3	72.5	0.0	0.0	4.2	1573.1	493.0	72.5	1690.7	559.2	-1684.5	
17	Petroleum and coal pr	29	1253.6	78.3	0.0	0.0	0.0	1175.3	3.4	78.3	2332.7	1034.1	-3285.1	
18	Rubber and miscellane	30	1056.1	44.9	0.0	0.0	6.2	1017.4	1012.9	44.9	1111.7	198.2	-252.2	
19	Leather and leather p	31	134.3	13.0	0.0	0.0	0.5	121.8	37.6	13.0	14.6	130.3	-94.3	
20	Stone, clay, and glas	32	774.7	28.4	0.0	0.4	0.0	746.7	647.8	28.4	722.5	55.1	-101.3	
21	Primary metal industr	33	539.7	9.9	0.0	0.0	8.5	538.4	465.9	9.9	1687.1	5.2	-1216.5	
22	Fabricated metal prod	34	3190.0	78.7	0.0	0.0	4.4	3115.7	2675.8	78.7	1736.7	523.4	494.4	
23	Machinery, except ele	35	9348.9	2038.6	0.0	3.1	131.8	7445.2	1648.5	2038.6	1159.9	1278.5	1248.7	
24	Electric and electron	36	2548.4	231.1	0.0	0.0	5.3	2322.7	779.0	231.1	1507.5	779.6	-1277.1	
25	Transportation equipm	37	314.8	22.2	0.0	0.0	7.1	299.7	280.0	22.2	105.6	294.7	-98.0	
26	Motor vehicles and eq	371	1052.6	83.8	0.0	0.0	0.0	968.8	592.8	83.8	532.9	1855.3	-1711.7	
27	Instruments and relat	38	2079.1	296.6	0.0	0.0	0.3	1782.7	654.9	296.6	203.6	538.9	208.9	
28	Miscellaneous manufac	39	408.6	22.2	0.0	1.5	0.0	387.8	347.2	22.2	202.9	439.5	-273.0	
29	Railroad transportati	40	759.9	76.6	0.0	0.0	0.0	683.3	215.3	76.6	52.0	4.2	235.8	
30	Local and interurban	41	324.1	0.0	0.0	0.0	0.0	324.1	0.0	0.0	16.5	23.8	-40.2	
31	Trucking and warehous	42	2068.1	84.7	0.0	0.0	0.0	1983.4	755.3	84.7	243.9	51.4	544.6	
32	Water transportation	44	232.0	49.5	0.0	0.0	0.0	182.5	0.0	49.5	57.1	11.5	-19.0	
33	Transportation by air	45	1773.2	169.3	0.0	0.0	0.0	1603.8	361.7	169.3	122.7	93.8	314.5	
34	Pipelines, except nat	46	70.4	2.8	0.0	0.0	0.0	67.5	0.0	2.8	52.6	30.5	-80.3	
35	Transportation servic	47	178.9	21.3	0.0	0.0	0.0	157.6	0.0	21.3	20.5	14.1	-13.3	
36	Communication	48	1556.4	24.5	0.0	0.0	0.0	1531.8	1.7	24.5	266.0	244.8	-484.6	
37	Electric, gas, and sa	49	4260.2	3.0	2.2	0.0	0.0	4259.4	147.0	3.0	946.9	558.1	-1355.0	
38	Wholesale trade	50-51	7374.4	491.7	0.0	0.0	0.0	6882.7	1143.0	491.7	114.8	23.6	1496.3	
39	Retail trade	52-59	11869.6	6.0	111.8	0.0	0.0	11975.4	1660.5	6.0	191.1	389.2	1086.2	
40	Banking and credit ag	60,61	2063.4	34.3	0.0	0.4	0.0	2029.5	24.7	34.3	7.6	3.9	47.5	
41	Holding companies and	62,67	831.7	37.6	0.0	0.0	0.0	794.1	129.6	37.6	45.9	78.7	42.6	
42	Insurance	63,64	3092.9	78.9	0.0	0.6	0.0	3014.7	344.1	78.9	10.4	8.1	404.5	
43	Real estate	65,66	11969.4	128.0	0.0	0.0	0.0	11841.4	1157.2	128.0	1150.7	1876.7	-1742.3	
44	Hotels and other lodg	70	711.5	0.9	38.1	0.0	0.0	748.7	0.0	0.9	334.2	223.5	-556.9	
45	Personal services	72	986.6	0.2	0.0	0.0	0.0	986.4	259.8	0.2	19.6	39.1	201.3	
46	Business and miscella	73,76	5057.2	22.8	11.5	0.1	0.0	5046.0	475.5	22.8	852.3	158.1	-512.1	
47	Auto repair, services	75	1491.7	0.1	1.2	0.0	0.0	1492.9	59.4	0.1	39.6	29.1	-9.2	
48	Amusement and recreat	78-79	810.9	14.4	0.0	0.0	0.0	796.6	107.9	14.4	50.1	127.3	-55.2	
49	Health services	80	5792.9	0.3	28.2	0.0	0.0	5820.8	1041.3	0.3	16.0	857.9	167.8	
50	Legal services	81	1053.5	6.0	0.0	0.0	0.0	1047.5	0.0	6.0	38.0	20.6	-52.6	
51	Educational services	82	735.5	0.0	7.0	0.0	0.0	742.6	25.8	0.0	0.8	29.0	-4.0	
52	Social services and m	83,84,86	1697.2	11.3	0.5	0.0	0.0	1686.4	684.7	11.3	83.0	288.5	324.6	
53	Private households	88	155.2	0.0	0.0	0.0	0.0	155.2	0.0	0.0	0.0	12.3	-12.3	
54	Miscellaneous profess	89	1416.7	36.2	12.5	0.0	0.0	1393.1	0.0	36.2	124.0	35.6	-123.3	
55	Federal government	na	639.0	1.4	0.0	0.0	0.0	637.6	40.5	1.4	147.5	19.4	-125.0	
56	State and local gover	na	216.5	0.0	0.0	0.0	0.0	216.5	0.0	0.0	12.0	94.7	-106.6	
57	Noncomparable imports	na	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	410.1	548.4	-958.6	
58	Scrap, secondhand and	na	141.7	0.0	2.7	0.0	0.0	144.4	57.5	0.0	14.9	444.7	-402.1	
59	Government industry	90	10560.5	0.0	0.0	0.0	0.0	10560.5	3122.4	0.0	0.0	145.4	2977.0	
60	Rest of World; Invent	na	0.0	0.0	0.0	0.0	0.0	411.1	0.0	0.0	0.0	0.0	0.0	
61	Total		140759.1	5788.3	249.6	24.5	543.6	136199.6	39463.6	5788.3	27171.5	18682.8	-602.5	
62	Agriculture	8-9	7916.0	556.6	30.5	3.0	176.3	7569.2	3091.2	556.6	1772.7	263.2	1612.0	
63	Mining	10-14	1855.9	317.1	2.7	0.0	167.5	1709.0	1645.1	317.1	1587.9	11.2	363.1	
64	Construction	15-17	7499.1	1.2	0.0	0.0	0.1	7498.1	94.4	1.2	686.3	623.8	-1214.6	
65	Manufacturing	20-39	43596.5	3611.2	0.7	20.3	199.7	40205.9	22818.0	3611.2	17683.8	11298.6	-2553.1	
66	Nonurable goods	20-3,26-31	21748.3	768.5	0.7	15.3	39.4	21035.2	13884.2	768.5	9217.2	5138.3	297.1	
67	Durable goods	24-5,32-9	21848.2	2842.8	0.0	5.0	160.3	19170.7	8933.8	2842.8	8466.5	6160.3	-2850.2	
68	Transportation and pu	40-2,44-9	11223.1	431.9	2.2	0.0	0.0	10793.4	1481.0	431.9	1778.2	1032.2	-897.5	
69	Trade	50-59	19244.0	497.8	111.8	0.0	0.0	18858.1	2803.5	497.8	305.9	412.9	2582.5	
70	Finance, insurance, a	60-67	17957.5	278.8	0.0	1.0	0.0	17679.7	1655.6	278.8	1214.6	1967.4	-1247.7	
71	Services	70-86,89	19754.0	92.2	99.0	0.2	0.0	19760.9	2654.3	92.2	1557.5	1808.8	-619.8	
72	Government		11416.1	1.5	0.0	0.0	0.0	11414.6	3162.9	1.5	159.5	259.5	2745.4	

Source: Based on University of Minnesota 1985 Micro-IMPLAN (Impact Analysis for PLANing) System

Table 2. Value of all shipments to Metro and Greater MN of specified industry output (1985\$),  
by source of shipments, Twin Cities Metropolitan Council Region and Greater Minnesota, 1985

NO.	Title	SIC Code	Metro MN Sources			Greater MN Sources			Rest of US	
			Metro to Metro	Metro to GrMN	Metro to US	Gr MN to Gr MN	Gr MN to Metro	Gr MN to US	US to Metro	US to Gr MN
			(mil.\$)	(mil.\$)	(mil.\$)	(mil.\$)	(mil.\$)	(mil.\$)	(mil.\$)	
1	Farm	01,02	496.2	0.0	0.0	1180.0	1068.4	5092.5	348.4	177.3
2	Agricultural service	07-09	136.2	0.0	0.0	162.5	13.3	0.0	112.4	23.4
3	Metal mining	10	7.3	4.8	0.7	16.8	22.9	1318.9	28.1	15.7
4	Coal mining	11,12	5.9	0.0	0.0	0.3	0.0	0.0	290.0	209.7
5	Oil and gas extract	13	60.9	0.0	0.0	9.7	0.0	0.0	1430.6	1048.5
6	Nonmetallic minerals	14	37.9	0.3	19.3	46.7	20.6	22.8	49.9	29.9
7	Construction	15-17	4444.6	0.0	140.6	3413.1	10.9	199.1	984.9	446.9
8	Food and kindred prod	20	1807.3	125.7	668.0	1822.5	908.9	3974.1	559.7	376.0
9	Tobacco manufactures	21	0.0	0.0	0.0	0.0	0.0	0.0	270.3	191.7
10	Textile mill product	22	96.9	3.7	8.3	169.1	8.0	0.0	1048.7	645.6
11	Apparel and other text	23	42.7	1.9	0.0	28.3	7.8	0.0	93.8	72.0
12	Lumber and wood prod	24	169.7	0.0	347.8	346.2	92.1	242.9	353.1	90.1
13	Furniture and fixture	25	113.7	0.0	6.0	128.6	23.2	57.6	201.7	111.6
14	Paper and allied prod	26	598.0	135.5	1366.2	465.1	261.2	2010.8	159.7	122.4
15	Printing and publish	27	1198.5	100.0	1134.3	714.1	0.0	303.4	46.9	69.5
16	Chemicals and allied	28	740.4	243.5	184.5	328.1	8.7	0.0	1364.8	928.2
17	Petroleum and coal p	29	1173.2	73.3	28.3	56.3	0.0	0.0	835.8	1295.8
18	Rubber and miscellan	30	657.8	15.4	0.0	358.9	0.0	0.0	116.7	175.3
19	Leather and leather	31	26.6	2.2	2.1	43.5	27.6	24.8	38.7	20.1
20	Stone, clay, and gla	32	193.4	3.5	268.0	229.0	46.3	80.2	355.8	190.1
21	Primary metal indust	33	265.6	32.4	77.1	150.2	33.6	13.5	887.1	659.1
22	Fabricated metal pro	34	1251.3	176.0	1195.1	663.2	19.2	324.6	358.0	316.3
23	Machinery, except el	35	1786.8	196.1	5158.6	1018.3	27.7	1060.4	350.9	322.0
24	Electric and electro	36	1146.7	138.7	294.7	551.5	29.4	57.1	882.2	770.2
25	Transportation equip	37	85.2	0.0	0.0	68.6	28.6	69.2	1151.1	828.8
26	Motor vehicles and e	371	900.7	0.0	0.0	152.2	8.2	0.0	1180.8	1330.3
27	Instruments and rela	38	585.1	153.9	1062.2	278.8	42.1	36.5	36.6	38.4
28	Miscellaneous manufa	39	210.5	33.5	49.2	95.0	13.5	21.2	73.6	82.6
29	Railroad transportat	40	321.5	0.0	249.0	228.1	0.0	70.1	0.0	0.0
30	Local and interurban	41	129.5	0.0	0.0	94.6	3.8	30.0	0.0	0.0
31	Trucking and warehou	42	892.8	0.0	214.5	633.4	0.0	154.5	0.0	0.0
32	Water transportation	44	64.8	0.0	0.0	150.4	0.0	0.0	265.2	83.8
33	Transportation by ai	45	707.8	403.4	637.0	98.8	0.0	0.0	0.0	0.0
34	Pipelines, except na	46	41.2	0.0	0.0	27.4	0.0	0.0	46.1	34.5
35	Transportation servi	47	151.4	18.7	7.0	73.6	0.0	0.0	13.6	24.8
36	Communication	48	1114.9	0.0	0.0	727.9	50.4	40.5	271.2	291.3
37	Electric, gas, and s	49	2275.0	0.0	0.0	1543.5	171.8	12.3	385.3	465.9
38	Wholesale trade	50-51	3597.8	571.6	402.7	1974.7	0.0	0.0	0.0	6.3
39	Retail trade	52-59	6186.1	39.8	77.2	4453.4	146.8	72.2	0.0	-0.0
40	Banking and credit	60,61	955.0	103.6	3.1	883.8	120.8	0.0	315.9	0.0
41	Holding companies	62,67	418.2	212.1	8.7	84.6	0.0	0.0	0.0	0.0
42	Insurance	63,64	1629.6	623.2	502.7	532.9	0.0	0.0	0.0	-0.0
43	Real estate	65,66	6996.6	1598.8	426.1	3365.3	0.0	0.0	0.0	0.0
44	Hotels and other loc	70	408.3	0.0	0.0	344.5	0.0	0.0	113.8	25.9
45	Personal services	72	425.9	7.4	78.0	293.4	22.7	45.6	0.0	17.5
46	Business and miscell	73,76	2539.6	483.6	64.2	563.9	0.0	0.0	65.0	800.5
47	Auto repair, service	75	1034.0	60.7	102.7	574.0	0.0	30.3	0.0	98.9
48	Amusement and recrea	78-79	446.3	100.3	78.4	183.5	0.0	8.4	115.0	114.3
49	Health services	80	2657.7	0.0	242.5	2213.2	0.0	752.0	596.7	95.9
50	Legal services	81	782.5	76.3	0.0	307.9	0.0	0.0	0.0	171.0
51	Educational services	82	396.2	1.8	0.0	328.5	44.1	4.3	51.6	18.8
52	Social services and	83,84,86	820.5	22.5	151.6	512.0	0.0	244.2	10.1	54.8
53	Private households	88	44.4	0.0	0.0	37.2	0.0	0.0	59.5	36.5
54	Miscellaneous profes	89	1105.7	29.9	0.0	289.3	0.0	0.0	0.0	465.3
55	Federal government na		391.8	83.5	23.0	174.8	0.0	0.0	113.9	100.5
56	State and local government		293.0	0.8	0.0	440.9	49.2	0.0	298.2	12.7
57	Total		55067.2	5878.5	15279.2	33631.8	3331.9	16374.2	16331.3	13510.8
58	Agriculture	1-2,7-9	632.4	0.0	0.0	1342.5	1081.7	5092.5	460.9	200.7
59	Mining	10-14	112.0	5.1	20.1	73.5	43.5	1341.7	1798.5	1307.7
60	Construction	15-17	4444.6	0.0	140.6	3413.1	10.9	199.1	984.9	446.9
61	Manufacturing	20-39	13049.9	1435.3	11850.4	7667.4	1586.2	8276.5	10365.9	8636.2
62	Nonurable goods	20-3,26-31	6341.3	701.2	3391.6	3985.9	1222.2	6313.2	4535.0	3896.7
63	Durable goods	24-5,32-9	6708.6	734.0	8458.8	3681.5	364.0	1963.3	5831.0	4739.5
64	Transportation and	40-42,44-49	5699.0	422.1	1107.4	3577.7	225.9	307.5	981.5	900.4
65	Trade	50-59	9783.9	611.4	479.9	6428.2	146.8	72.2	0.0	6.3
66	Finance, insurance,	60-67	9999.4	2537.8	940.5	4866.6	120.8	0.0	315.9	-0.0
67	Services	70-86,89	10661.1	782.5	717.4	5647.2	66.8	1084.7	1011.7	1899.4
68	Government		684.8	84.3	23.0	615.7	49.2	0.0	412.1	113.2
69	Government industry		3418.3	0.0	0.0	3168.8	0.0	0.0	1081.6	23.8
70	Rest of world; inventory	valuat	-26.7	0.0	26.7	-18.9	0.0	18.9	439.6	311.9
71	Total		58458.8	5878.5	15305.9	36781.7	3331.9	16393.1	17852.6	13846.5

Source: Based on university of Minnesota 1985 Micro-IMPPLAN (Impact Analysis for PLanning) System using  
excess industry output as measure of export-producing activity.

Table 3. Gross industry output, employment and value added (1985\$) attributed to locally used, excess and deficit industry output in 57-industry IMPLAN model, Twin Cities Metropolitan Council Region, 1985

No.	Title	SIC Code	Industry Output				Employment				Value Added			
			Local	Excess	Deficit	Total	Local	Excess	Deficit	Total	Local	Excess	Deficit	Total
			(mil.\$)	(mil.\$)	(mil.\$)	(mil.\$)	(thou.)	(thou.)	(thou.)	(thou.)	(mil.\$)	(mil.\$)	(mil.\$)	(mil.\$)
1	Farm	01,02	496.2	0.0	1416.8	1913.1	7.2	0.0	25.4	32.6	200.7	0.0	524.0	724.6
2	Agricultural service	07-09	136.2	0.0	125.8	262.0	6.0	0.0	4.2	10.3	81.5	0.0	55.8	137.2
3	Metal mining	10	7.3	5.5	51.0	63.8	0.1	0.1	0.5	0.7	3.7	2.8	18.9	25.4
4	Coal mining	11,12	5.9	0.0	290.0	295.9	0.0	0.0	2.1	2.2	2.9	0.0	141.0	143.9
5	Oil and gas extracti	13	60.9	0.0	1430.6	1491.5	0.9	0.0	8.6	9.5	21.9	0.0	1092.5	1114.4
6	Nonmetallic minerals	14	37.9	19.7	70.5	128.0	0.4	0.2	0.8	1.4	24.7	12.8	37.2	74.7
7	Construction	15-17	4444.6	140.6	995.8	5580.9	53.1	1.8	11.4	66.3	2063.7	69.6	467.5	2600.9
8	Food and kindred prod	20	1807.3	793.6	1468.5	4069.5	9.8	3.2	7.3	20.3	461.3	221.1	338.3	1020.7
9	Tobacco manufactures	21	0.0	0.0	270.3	270.3	0.0	0.0	0.7	0.7	0.0	0.0	157.2	157.2
10	Textile mill product	22	96.9	12.0	1056.7	1165.5	1.6	0.1	16.6	18.4	30.1	2.7	321.3	354.1
11	Apparel and other tex	23	42.7	1.9	101.6	146.2	0.8	0.0	1.5	2.3	10.1	0.6	30.4	41.1
12	Lumber and wood prod	24	169.7	347.8	445.2	962.8	2.1	3.6	5.9	11.7	65.4	130.0	156.8	352.3
13	Furniture and fixtur	25	113.7	6.0	224.9	344.6	1.7	0.1	3.8	5.6	49.4	2.8	92.0	144.2
14	Paper and allied prod	26	596.0	1501.7	420.9	2520.6	4.5	11.7	2.4	18.6	239.3	643.0	149.1	1031.5
15	Printing and publish	27	1198.5	1234.3	46.9	2479.7	15.2	13.4	0.6	29.2	564.4	552.7	22.9	1140.0
16	Chemicals and allied	28	740.4	428.0	1373.5	2541.9	4.3	2.2	7.4	13.9	241.2	150.9	448.1	840.1
17	Petroleum and coal p	29	1173.2	101.6	835.8	2110.6	1.2	0.3	0.7	2.2	214.2	39.1	143.6	396.9
18	Rubber and miscellan	30	657.8	15.4	116.7	790.0	7.5	0.2	1.1	8.8	242.2	5.7	48.2	296.1
19	Leather and leather	31	26.6	4.3	66.3	97.2	0.3	0.1	1.5	1.8	12.0	1.9	24.0	37.9
20	Stone, clay, and gla	32	193.4	271.5	402.1	867.0	2.4	2.6	4.5	9.6	83.5	125.0	166.7	395.3
21	Primary metal indust	33	265.6	109.4	920.7	1295.7	2.6	1.4	6.3	10.3	107.6	44.2	315.6	471.4
22	Fabricated metal pro	34	1251.3	1371.0	377.2	2999.5	13.2	15.7	3.6	32.5	577.8	705.7	169.0	1452.5
23	Machinery, except el	35	1786.8	5354.8	378.7	7520.2	19.3	46.8	3.8	69.8	773.7	1823.8	196.7	2794.1
24	Electric and electro	36	1146.7	433.4	911.6	2491.8	14.4	4.9	10.1	29.4	381.7	188.7	334.5	904.8
25	Transportation equip	37	85.2	0.0	1179.7	1264.9	1.0	0.0	11.3	12.3	35.2	0.0	576.0	611.2
26	Motor vehicles and e	371	900.7	0.0	1188.9	2089.6	2.9	0.0	6.4	9.3	262.4	0.0	388.3	650.8
27	Instruments and rela	38	585.1	1216.1	78.8	1879.9	7.1	16.0	0.8	23.9	297.5	690.4	32.6	1020.5
28	Miscellaneous manufa	39	210.5	82.7	87.1	380.3	3.5	1.6	1.3	6.3	90.2	37.8	35.0	163.0
29	Railroad transportat	40	321.5	249.0	0.0	570.5	3.8	2.9	0.0	6.7	204.3	158.3	0.0	362.6
30	Local and interurban	41	129.5	0.0	3.8	133.3	3.9	0.0	0.1	4.0	70.7	0.0	2.3	73.0
31	Trucking and warehou	42	892.8	214.5	0.0	1107.3	16.4	3.9	0.0	20.4	663.0	159.3	0.0	822.3
32	Water transportation	44	64.8	0.0	265.2	330.0	0.4	0.0	1.7	2.1	19.8	0.0	77.4	97.3
33	Transportation by ai	45	707.8	1040.4	0.0	1748.2	5.6	8.2	0.0	13.8	326.2	479.4	0.0	805.6
34	Pipelines, except na	46	41.2	0.0	46.1	87.3	0.1	0.0	0.1	0.2	20.1	0.0	23.3	43.4
35	Transportation servi	47	151.4	25.6	13.6	190.7	3.6	0.7	0.2	4.5	98.0	17.5	9.1	124.5
36	Communication	48	1114.9	0.0	321.6	1436.5	10.9	0.0	3.1	14.0	791.7	0.0	230.4	1022.1
37	Electric, gas, and s	49	2275.0	0.0	557.1	2832.1	8.5	0.0	2.1	10.6	1147.7	0.0	241.9	1389.6
38	Wholesale trade	50-51	3597.8	974.3	0.0	4572.1	63.8	17.3	0.0	81.1	2412.1	653.1	0.0	3065.2
39	Retail trade	52-59	6186.1	117.0	146.8	6450.0	186.2	3.8	4.0	194.1	3511.2	57.6	94.9	3663.6
40	Banking and credit	60,61	955.0	106.6	436.7	1498.3	23.0	4.0	7.0	34.0	485.3	41.6	251.0	777.9
41	Holding companies an	62,67	418.2	220.8	0.0	639.0	5.1	2.7	0.0	7.7	218.6	115.4	0.0	334.0
42	Insurance	63,64	1629.6	1125.9	0.0	2755.5	24.2	15.0	0.0	39.1	822.0	553.5	0.0	1375.5
43	Real estate	65,66	6996.6	2024.9	0.0	9021.6	31.8	8.1	0.0	39.9	5806.4	1674.0	0.0	7480.4
44	Hotels and other lod	70	408.3	0.0	113.8	522.1	12.8	0.0	3.1	15.9	241.4	0.0	74.5	316.0
45	Personal services	72	425.9	85.4	22.7	534.0	22.5	5.4	0.5	28.5	275.1	61.7	9.4	346.2
46	Business and miscell	73,76	2539.6	547.7	65.0	3152.3	74.7	15.8	1.8	92.3	1734.2	379.9	47.8	2161.9
47	Auto repair, service	75	1034.0	163.4	0.0	1197.5	12.0	2.4	0.0	14.3	550.1	99.6	0.0	649.7
48	Amusement and recre	78-79	446.3	178.8	115.0	740.0	14.2	5.7	2.1	21.9	183.8	69.1	61.4	314.3
49	Health services	80	2657.7	242.5	596.7	3497.0	59.4	7.4	12.0	78.7	1693.7	163.9	380.2	2237.9
50	Legal services	81	782.5	76.3	0.0	858.9	11.2	1.1	0.0	12.3	613.0	59.8	0.0	672.8
51	Educational services	82	396.2	1.8	95.7	493.7	14.7	0.0	3.4	18.2	200.9	1.2	55.5	257.7
52	Social services and	83,84,86	820.5	174.1	10.1	1004.7	27.9	6.3	0.1	34.3	442.5	100.3	4.1	546.9
53	Private households	88	44.4	0.0	59.5	103.9	7.9	0.0	8.3	16.3	44.4	0.0	59.5	103.9
54	Miscellaneous profes	89	1105.7	29.9	0.0	1135.5	26.9	0.7	0.0	27.7	654.3	17.8	0.0	672.0
55	Federal government na		391.8	106.5	113.9	612.2	8.1	2.3	0.8	11.2	204.6	57.2	36.8	298.6
56	State and local govern		293.0	0.8	347.4	641.3	5.7	0.0	3.6	9.4	97.1	0.2	122.3	219.6
57	Total		55067.2	21157.8	19663.2	95888.2	868.5	239.7	205.1	1313.3	30670.5	10371.5	8288.9	49331.0
6	Agriculture	1-2,7-9	632.4	0.0	1542.6	2175.0	13.3	0.0	29.6	42.9	282.1	0.0	579.8	861.9
9	Mining	10-14	112.0	25.2	1842.0	1979.2	1.4	0.3	12.1	13.8	53.3	15.6	1289.6	1358.5
0	Construction	15-17	4444.6	140.6	995.8	5580.9	53.1	1.8	11.4	66.3	2063.7	69.6	467.5	2600.9
1	Manufacturing	20-39	13049.9	13285.7	11952.1	38287.7	115.5	123.9	97.6	337.0	4739.3	5366.1	4170.2	14275.6
2	Non-durable goods	20-3,26-31	6341.3	4092.9	5757.2	16191.4	45.3	31.2	39.8	116.3	2014.9	1617.7	1682.9	5315.6
3	Durable goods	24-5,32-9	6708.6	9192.8	6194.9	22096.3	70.2	92.7	57.8	220.7	2724.4	3748.3	2487.3	8960.0
4	Transportation and	p40-42,44-49	5699.0	1529.5	1207.4	8435.9	53.2	15.7	7.4	76.3	3341.5	814.5	584.3	4740.3
5	Trade	50-59	9783.9	1091.3	146.8	11022.1	250.0	21.1	4.0	275.2	5923.2	710.6	94.9	6726.7
6	Finance, insurance,	60-67	9999.4	3478.3	436.7	13914.4	84.0	29.7	7.0	120.8	7332.4	2384.4	251.0	9967.8
7	Services	70-86,89	10661.1	1499.9	1078.5	13239.5	284.2	44.8	31.4	360.4	6633.4	953.3	692.5	8279.2
8	Government		684.8	107.3	461.3	1253.5	13.8	2.3	4.5	20.6	301.7	57.4	159.1	518.2
9	Government industry		3418.3	0.0	1081.6	4499.9	119.4	0.0	38.0	157.4	3418.3	0.0	1081.6	4499.9
0	Rest of world; inventory	valuation	-26.7	26.7	439.6	439.6	0.0	0.0	-0.2	-0.2	0.0	0.0	439.6	439.6
	Total		58458.8	21184.5	21184.5	100827.7	967.9	239.7	242.9	1470.5	34088.8	10371.5	9810.2	54270.5

Source: Based on University of Minnesota 1985 Micro-IMPLAN (Impact Analysis for Planning) System using excess industry output as measure of export-producing activity.

Table 4. Gross industry output, employment and value added (1985) attributed to locally used, excess and deficit industry output in 57-industry IMPLAN model, Greater Minnesota, 1985

No.	Title	SIC Code	Industry Output				Employment				Value Added			
			Local	Excess	Deficit	Total	Local	Excess	Deficit	Total	Local	Excess	Deficit	Total
			(mil.\$)	(mil.\$)	(mil.\$)	(mil.\$)	(thou.)	(thou.)	(thou.)	(thou.)	(mil.\$)	(mil.\$)	(mil.\$)	(mil.\$)
1	Farm	01,02	1180.0	6160.9	177.3	7518.2	17.0	84.7	5.9	107.6	429.5	2413.5	84.7	2927.7
2	Agricultural service	07-09	162.5	13.3	23.4	199.2	7.0	0.6	0.6	8.2	81.0	4.9	10.6	96.5
3	Metal mining	10	16.8	1341.8	24.5	1383.1	0.1	7.4	0.3	7.8	8.0	640.1	8.0	656.2
4	Coal mining	11,12	0.3	0.0	209.7	209.9	0.0	0.0	1.5	1.5	0.1	0.0	101.9	102.1
5	Oil and gas extract	13	9.7	0.0	1048.5	1058.2	0.1	0.0	6.3	6.5	3.5	0.0	802.3	805.8
6	Nonmetallic minerals	14	46.7	43.4	30.2	120.3	0.5	0.5	0.3	1.3	30.3	28.4	14.7	73.4
7	Construction	15-17	3413.1	210.0	446.9	4069.9	40.9	2.5	4.7	48.2	1576.1	107.6	223.2	1907.0
8	Food and kindred prod	20	1822.5	4883.0	501.7	7207.2	9.2	20.0	2.7	31.9	387.7	744.7	186.5	1318.9
9	Tobacco manufactures	21	0.0	0.0	191.7	191.7	0.0	0.0	0.5	0.5	0.0	0.0	111.5	111.5
10	Textile mill product	22	169.1	8.0	649.3	826.4	2.7	0.1	10.3	13.1	52.7	2.3	196.2	251.2
11	Apparel and other tex	23	26.3	7.8	74.0	110.1	0.6	0.2	1.0	1.8	6.0	1.4	22.6	30.0
12	Lumber and wood prod	24	346.2	335.0	90.1	771.3	4.9	4.1	1.3	10.2	113.7	129.3	31.9	274.8
13	Furniture and fixtur	25	128.6	80.8	111.6	321.1	2.0	1.1	1.9	5.0	55.1	36.4	44.4	135.9
14	Paper and allied prod	26	465.1	2272.1	257.8	2995.0	3.2	13.0	1.7	17.9	182.6	870.9	95.2	1148.7
15	Printing and publish	27	714.1	303.4	169.5	1187.0	9.1	3.8	2.1	15.0	326.0	136.8	89.7	552.6
16	Chemicals and allied	28	328.1	8.7	1171.7	1508.5	1.9	0.0	6.5	8.5	87.1	1.4	396.9	465.4
17	Petroleum and coal p	29	56.3	0.0	1369.1	1425.4	0.1	0.0	1.3	1.4	13.6	0.0	238.1	251.7
18	Rubber and miscellan	30	358.9	0.0	190.7	549.5	4.0	0.0	2.1	6.1	132.6	0.0	74.4	207.0
19	Leather and leather	31	43.5	52.4	22.4	118.3	0.7	0.8	0.4	2.0	19.8	23.5	7.6	50.9
20	Stone, clay, and gla	32	229.0	126.5	193.5	549.0	2.8	1.7	2.2	6.6	101.7	59.1	88.8	249.5
21	Primary metal indust	33	150.2	47.1	691.5	888.8	1.6	0.4	4.8	6.8	60.9	17.9	241.5	320.3
22	Fabricated metal pro	34	663.2	343.8	492.3	1499.2	6.9	3.9	5.3	16.1	296.6	165.9	224.0	686.5
23	Machinery, except el	35	1018.3	1088.2	518.1	2624.6	11.0	9.4	5.5	25.9	427.6	355.5	257.6	1040.7
24	Electric and electro	36	551.5	86.5	908.9	1546.9	7.3	0.9	10.3	18.5	162.9	34.0	338.4	535.3
25	Transportation equip	37	68.6	97.8	828.8	995.3	0.9	1.4	7.8	10.1	25.8	37.8	407.9	471.6
26	Motor vehicles and e	371	152.2	8.2	1330.3	1490.7	1.1	0.0	5.7	6.8	60.8	3.9	389.5	454.2
27	Instruments and rela	38	278.8	78.6	192.2	549.7	3.1	1.1	2.6	6.8	125.4	33.2	104.7	263.3
28	Miscellaneous manufa	39	95.0	34.7	116.1	245.8	1.7	0.6	1.7	4.1	40.9	13.8	47.1	101.9
29	Railroad transportat	40	228.1	70.1	0.0	298.2	2.7	0.8	0.0	3.5	145.0	44.6	0.0	183.5
30	Local and interurban	41	94.6	33.8	0.0	128.4	2.9	1.0	0.0	3.9	51.6	18.5	0.0	70.0
31	Trucking and warehou	42	633.4	154.5	0.0	788.0	11.7	2.8	0.0	14.5	470.4	114.8	0.0	585.2
32	Water transportation	44	150.4	0.0	83.8	234.2	0.9	0.0	0.5	1.5	46.0	0.0	24.5	70.5
33	Transportation by ai	45	98.8	0.0	403.4	502.2	0.8	0.0	3.2	3.9	45.5	0.0	186.7	232.3
34	Pipelines, except na	46	27.4	0.0	34.5	61.9	0.1	0.0	0.1	0.2	13.4	0.0	17.5	30.8
35	Transportation servi	47	73.6	0.0	43.5	117.1	1.7	0.0	0.9	2.6	47.6	0.0	30.0	77.5
36	Communication	48	727.9	90.8	291.3	1110.0	7.1	1.0	2.8	10.9	507.9	50.2	215.9	774.0
37	Electric, gas, and s	49	1543.5	184.1	465.9	2193.5	6.0	0.8	1.5	8.3	836.8	111.2	151.8	1099.8
38	Wholesale trade	50-51	1974.7	0.0	577.9	2552.6	35.0	0.0	10.3	45.4	1323.6	0.0	384.4	1708.0
39	Retail trade	52-59	4453.4	219.1	39.8	4712.3	133.8	6.3	1.2	141.3	2536.8	135.3	19.9	2691.9
40	Banking and credit	60,61	883.8	120.8	103.6	1108.2	17.3	1.9	3.9	23.1	463.5	70.0	40.8	594.3
41	Holding companies an	62,67	84.6	0.0	212.1	296.7	1.0	0.0	2.3	3.3	44.2	0.0	134.0	178.3
42	Insurance	63,64	532.9	0.0	623.2	1156.2	9.3	0.0	7.6	16.9	280.5	0.0	310.6	591.2
43	Real estate	65,66	3365.3	0.0	1598.8	4964.1	14.9	0.0	8.6	23.5	2736.3	0.0	1297.8	4034.2
44	Hotels and other lod	70	344.5	0.0	25.9	370.4	10.8	0.0	0.7	11.5	203.7	0.0	17.0	220.7
45	Personal services	72	293.4	68.3	24.9	386.6	15.1	3.8	1.2	20.2	186.8	45.9	15.4	248.2
46	Business and miscell	73,76	563.9	0.0	1284.0	1847.9	14.9	0.0	36.1	51.0	381.6	0.0	943.9	1325.5
47	Auto repair, service	75	574.0	30.3	159.6	764.0	7.1	0.4	1.5	8.9	292.6	14.5	96.8	403.8
48	Amusement and recrea	78-79	183.5	8.4	214.7	406.6	6.5	0.5	4.7	11.7	66.3	3.5	110.5	180.3
49	Health services	80	2213.2	752.0	95.9	3061.0	48.7	20.2	2.3	71.2	1405.3	511.8	54.9	1972.0
50	Legal services	81	307.9	0.0	247.3	555.2	4.4	0.0	3.5	7.9	241.2	0.0	197.1	438.3
51	Educational services	82	328.5	48.4	20.5	397.4	12.7	1.9	0.6	15.2	162.2	23.2	12.9	198.2
52	Social services and	83,84,86	512.0	244.2	77.3	833.4	18.7	9.6	1.0	29.3	284.4	149.2	35.4	469.1
53	Private households	88	37.2	0.0	36.5	73.7	6.6	0.0	5.1	11.7	37.2	0.0	36.5	73.7
54	Miscellaneous profes	89	289.3	0.0	495.2	784.5	7.2	0.0	10.7	17.9	174.2	0.0	325.4	499.6
55	Federal government na		174.8	0.0	184.0	358.8	3.7	0.0	2.6	6.3	93.6	0.0	77.9	171.5
56	State and local government		440.9	49.2	13.5	503.6	6.0	0.3	0.6	6.9	150.5	17.4	4.3	172.2
57	Total		33631.8	19706.1	19389.3	72727.3	548.3	209.5	211.0	968.8	18056.6	7172.5	9582.1	34811.2
58	Agriculture	1-2,7-9	1342.5	6174.2	200.7	7717.4	24.0	85.3	6.6	115.9	510.5	2418.5	95.3	3024.2
59	Mining	10-14	73.5	1385.2	1312.8	2771.6	0.7	7.8	8.5	17.1	42.0	668.6	926.9	1637.5
60	Construction	15-17	3413.1	210.0	446.9	4069.9	40.9	2.5	4.7	48.2	1576.1	107.6	223.2	1907.0
61	Manufacturing	20-39	7667.4	9862.6	10071.5	27601.6	74.9	62.5	77.6	215.1	2679.4	2667.9	3594.6	8941.8
62	Non-durable goods	20-3,26-31	3985.9	7535.4	4598.0	16119.3	31.6	38.0	28.6	98.2	1208.0	1781.0	1418.7	4407.8
63	Durable goods	24-5,32-9	3681.5	2327.2	5473.5	11482.3	43.3	24.6	49.0	116.9	1471.4	886.8	2175.8	4534.0
64	Transportation and	40-42,44-49	3577.7	533.4	1322.4	5433.5	33.9	6.4	9.0	49.3	2164.2	339.2	626.3	3129.8
65	Trade	50-59	6428.2	219.1	617.7	7265.0	168.8	6.3	11.6	186.7	3860.5	135.3	404.3	4400.0
66	Finance, insurance,	60-67	4866.6	120.8	2537.8	7525.2	42.6	1.9	22.4	66.8	3544.6	70.0	1783.3	5397.9
67	Services	70-86,89	5647.2	1151.5	2882.0	9480.7	152.7	36.4	67.4	256.5	3435.4	748.1	1846.0	6029.4
68	Government		615.7	49.2	197.5	862.4	9.7	0.3	3.2	13.3	244.1	17.4	82.2	343.7
69	Government industry		3168.8	0.0	23.8	3192.7	110.7	0.0	0.8	111.5	3168.8	0.0	23.8	3192.7
70	Rest of world; inventory valuat		-18.9	18.9	311.9	311.9	0.0	0.0	-0.2	-0.2	0.0	0.0	311.9	311.9
71	Total		36761.7	19725.1	19725.1	76231.8	659.0	209.5	211.6	1080.1	21225.4	7172.5	9917.8	38315.8

Source: Based on University of Minnesota 1985 Micro-IMPLAN (Impact Analysis for PLAnning) System using excess industry output as measure of export-producing activity.

Table 5. Change sources of wage and salary employment in specified industry:  
 Mn, 1980-1990

No.	Title	SIC Code	1980 (no.)	Change, 1980-82			1982 (no.)	Change, 1982-90			1990 (no.)
				US Growth	Industry Mix	State Share		US Growth	Industry Mix	State Share	
1	Farm	01,02	31735	-261	-3745	5440	33169	7157	-14911	-4955	20460
2	Agricultural services, fo	07-09	8454	-69	560	-281	8663	1869	3935	-1287	13181
3	Metal mining	10	13757	-113	-3601	-1329	8714	1880	-4056	-1354	5184
4	Coal mining	11,12	5	-0	-0	0	5	1	-3	-1	2
5	Oil and gas extraction	13	245	-2	63	63	369	80	-244	7	212
6	Nonmetallic minerals, exci	14	1596	-13	-188	34	1429	308	-130	136	1743
7	Construction	15-17	78876	-648	-7529	-8992	61707	13314	6697	154	81872
8	Food and kindred products	20	48849	-401	-1449	-417	46582	10051	-10058	2746	49320
9	Tobacco manufactures	21	0	0	0	0	0	0	0	0	0
10	Textile mill products	22	3111	-26	-336	-520	2230	481	-644	69	2137
11	Apparel and other textile	23	5822	-48	-422	-2362	2990	645	-959	292	2968
12	Lumber and wood products	24	12479	-103	-1645	37	10769	2324	31	3992	17116
13	Furniture and fixtures	25	3865	-32	-249	-151	3433	741	-139	1922	5956
14	Paper and allied products	26	31523	-259	-1018	1040	31286	6751	-4815	411	33632
15	Printing and publishing	27	33944	-279	972	1090	35727	7709	763	9560	53759
16	Chemicals and allied prod	28	7428	-61	-145	238	7460	1610	-1556	2443	9956
17	Petroleum and coal produc	29	1647	-14	-27	10	1616	349	-739	728	1954
18	Rubber and miscellaneous	30	10775	-89	-430	-629	9627	2077	4	1881	13588
19	Leather and leather produ	31	2367	-19	-137	-208	2003	432	-1269	777	1943
20	Stone, clay, and glass pr	32	9203	-76	-1164	235	8198	1769	-1612	640	8995
21	Primary metal industries	33	6734	-55	-1244	128	5563	1200	-2254	1375	5884
22	Fabricated metal products	34	37585	-309	-3945	165	33496	7227	-7697	1967	34994
23	Machinery, except electri	35	87666	-720	-7515	2521	81952	17683	-24099	4318	79854
24	Electric and electronic e	36	26951	-221	-879	299	26150	5642	-6282	3649	29160
25	Transportation equipment,	37	3478	-29	-197	-916	2336	504	-146	3622	6316
26	Motor vehicles and equipm	371	4395	-36	-471	-742	3146	679	-170	1749	5404
27	Instruments and related p	38	27562	-226	538	-1765	26109	5634	-5266	-1367	25110
28	Miscellaneous manufacturi	39	7513	-62	-626	-164	6661	1437	-1584	-1034	5480
29	Railroad transportation	40	15123	-124	-2505	311	12805	2763	-6742	-1096	7730
30	Local and interurban pass	41	8452	-69	-83	-836	7463	1610	801	-81	9793
31	Trucking and warehousing	42	25243	-207	-1168	37	23905	5158	3673	95	32830
32	Water transportation	44	1501	-12	-58	-180	1250	270	-415	28	1132
33	Transportation by air	45	12229	-100	-221	238	12146	2621	5391	-4089	16069
34	Pipelines, except natural	46	220	-2	-8	-21	189	41	-69	47	208
35	Transportation services	47	3149	-26	304	-132	3295	711	1261	-184	5083
36	Communication	48	20223	-166	1211	-1366	19902	4294	-6259	3172	21109
37	Electric, gas, and sanita	49	14274	-117	930	-842	14245	3074	-1628	12	15703
38	Wholesale trade	50-51	118075	-970	1789	-5262	113632	24518	-1747	-11126	125277
39	Retail trade	52-59	333257	-2738	5872	-11149	325242	70177	28967	-23251	401136
40	Banking and credit agenci	60,61	37808	-311	2072	-739	38830	8378	-737	-5019	41453
41	Holding companies and inv	62,67	6477	-53	1323	-36	7711	1664	2977	4401	16753
42	Insurance	63,64	35601	-292	1006	396	36710	7921	887	1111	46629
43	Real estate	65,66	18314	-150	234	-708	17689	3817	1961	-591	22876
44	Hotels and other lodging	70	21441	-176	1194	-986	21473	4633	5396	-3828	27674
45	Personal services	72	18495	-152	798	-435	18706	4036	2490	5110	30343
46	Business and miscellaneous	73,76	56697	-466	4408	-3969	56671	12228	39502	10990	119391
47	Auto repair, services, an	75	17799	-146	452	-925	17180	3707	4654	93	25633
48	Amusement and recreation	78-79	19764	-162	785	-341	20046	4325	978	-2175	23174
49	Health services	80	129118	-1061	13714	-6372	135399	29215	16641	-10769	170486
50	Legal services	81	9776	-80	1446	225	11367	2453	4952	-1096	17675
51	Educational services	82	25457	-209	1569	-98	26719	5765	1996	-1574	32906
52	Social services and membe	83,84,86	67643	-556	234	195	67517	14568	9945	1307	93337
53	Private households	88	18228	-150	572	-216	18434	3977	-5946	627	17092
54	Miscellaneous professional	89	17284	-142	962	-480	17624	3803	4826	-3861	22392
55	Federal government	na	32953	-271	-886	-1052	30744	6634	-2817	588	35148
56	Federal military	na	22830	-188	1724	-8787	15580	3362	-2456	4116	20601
57	State and local governmen	na	255116	-2096	-3561	-3649	245810	53038	-11603	5963	293209
58	Total		1870112	-15364	-719	-54354	1799674	388315	19677	1360	2209026
59	Agriculture	8-9	40189	-330	-3185	5159	41832	9026	-10976	-6241	33641
60	Mining	10-14	15603	-128	-3726	-1232	10517	2269	-4433	-1212	7142
61	Construction	15-17	78876	-648	-7529	-8992	61707	13314	6697	154	81872
62	Manufacturing	20-39	372897	-3064	-20389	-2110	347334	74944	-68491	39741	393528
63	Nonurable goods	20-3,26-31	145466	-1195	-2994	-1756	139521	30104	-19274	18907	169259
64	Durable goods	24-5,32-9	227431	-1868	-17396	-354	207813	44840	-49218	20834	224269
65	Transportation and public	40-42,44-49	100414	-825	-1598	-2791	95200	20541	-3988	-2096	109657
66	Trade	50-59	451332	-3708	7661	-16411	438874	94696	27221	-34377	526413
67	Finance, insurance, and	60-67	98200	-807	4634	-1087	100940	21780	5088	-97	127711
68	Services	70-86,89	401702	-3300	26137	-13403	411136	88711	85435	-5177	580104
69	Government		310899	-2554	-2723	-13487	292134	63034	-16876	10666	348958

Source: Based on data series from US Department of Commerce, Regional Economic Information System, 1980-89; and US Department of Commerce, Office of Business Economics Regional Series, 1988-2010.



Table 6. Change sources of wage and salary employment in specified industry:  
MN, 1990-2000

No.	Title	SIC Code	1990	Change, 1990-91			1991	Change, 1991-00			2000
				US Industry Growth	Mix	State Share		US Industry Growth	Mix	State Share	
			(no.)	(no.)	(no.)	(no.)	(no.)	(no.)	(no.)	(no.)	
1	Farm	01,02	20460	-83	-1054	-1481	17842	1678	511	6739	26770
2	Agricultural services, fo	07-09	13181	-53	1024	720	14872	1399	687	-1948	15009
3	Metal mining	10	5184	-21	-793	671	5042	474	97	-712	4901
4	Coal mining	11,12	2	-0	0	0	2	0	-0	2	4
5	Oil and gas extraction	13	212	-1	-3	9	217	20	-22	-46	170
6	Nonmetallic minerals, exci	14	1743	-7	69	-8	1798	169	-216	12	1762
7	Construction	15-17	81872	-331	-4540	122	77123	7253	4222	-779	87819
8	Food and kindred products	20	49320	-199	223	1370	50714	4770	-4882	-5224	45377
9	Tobacco manufactures	21	0	0	0	0	0	0	0	0	0
10	Textile mill products	22	2137	-9	-77	130	2181	205	42	-445	1983
11	Apparel and other textile	23	2968	-12	-106	90	2940	276	-45	-107	3064
12	Lumber and wood products	24	17116	-69	-718	412	16741	1574	2369	1139	21824
13	Furniture and fixtures	25	5956	-24	-221	330	6041	568	648	-337	6920
14	Paper and allied products	26	33632	-136	-346	45	33196	3122	-2669	-130	33518
15	Printing and publishing	27	53759	-217	-191	2307	55657	5234	3286	-5985	58192
16	Chemicals and allied prod	28	9956	-40	49	111	10076	948	-1030	614	10607
17	Petroleum and coal produc	29	1954	-8	-70	234	2111	199	-38	-629	1642
18	Rubber and miscellaneous	30	13588	-55	-492	-35	13007	1223	942	1028	16200
19	Leather and leather produ	31	1943	-8	-176	179	1938	182	-200	-330	1591
20	Stone, clay, and glass pr	32	8995	-36	-483	253	8729	821	203	-124	9629
21	Primary metal industries	33	5884	-24	-242	-419	5199	489	-348	-2534	7874
22	Fabricated metal products	34	34994	-142	-901	515	34466	3241	-1352	-1159	35196
23	Machinery, except electri	35	79854	-323	-3594	-2291	73646	6926	-3932	9534	86174
24	Electric and electronic e	36	29160	-116	-1369	1277	28950	2723	-49	1435	33060
25	Transportation equipment,	37	6316	-26	-153	828	6965	655	726	-257	8089
26	Motor vehicles and equipm	371	5404	-22	-210	612	5784	544	-314	-1116	4898
27	Instruments and related	38	25110	-102	-725	-1110	23173	2179	641	7949	33942
28	Miscellaneous manufacturi	39	5480	-22	-220	108	5346	503	-160	-108	5581
29	Railroad transportation	40	7730	-31	-103	-179	7417	698	-2248	141	6007
30	Local and interurban pass	41	9793	-40	213	260	10233	962	-874	-950	9371
31	Trucking and warehousing	42	32830	-133	303	1438	34438	3239	174	-5060	32791
32	Water transportation	44	1132	-5	-20	-6	1102	104	-124	55	1137
33	Transportation by air	45	16069	-65	657	-1660	15001	1411	-64	6486	22834
34	Pipelines, except natural	46	208	-1	-7	5	205	19	-18	-3	204
35	Transportation services	47	5083	-21	132	-221	4974	468	167	1267	6876
36	Communication	48	21109	-85	-207	617	21433	2016	-376	-2281	20792
37	Electric, gas, and sanita	49	15703	-63	17	242	15898	1495	-454	-1223	15716
38	Wholesale trade	50-51	125277	-507	-219	-3305	121246	11403	-3502	8815	137962
39	Retail trade	52-59	401136	-1622	-3299	-2866	393349	36994	14547	-297	444592
40	Banking and credit agenci	60,61	41453	-168	-140	219	41364	3890	417	-273	45398
41	Insurance companies and inv	62,67	16753	-68	-192	604	17097	1608	1320	-1583	18442
42	Insurance	63,64	46629	-189	86	-280	46246	4349	2051	1105	53751
43	Real estate	65,66	22876	-93	-0	-14	22770	2141	503	-79	25335
44	Hotels and other lodging	70	27674	-112	1253	-59	28757	2705	650	-2634	29477
45	Personal services	72	30343	-123	1255	-63	31412	2954	-1156	-251	32959
46	Business and miscellaneous	73,76	119391	-483	-2373	11016	127551	11996	41033	-23784	156797
47	Auto repair, services, an	75	25633	-104	1224	212	26966	2536	-582	-1252	27667
48	Amusement and recreation	78-79	23174	-94	1164	-1490	22754	2140	-2082	3541	26353
49	Health services	80	170486	-689	7925	-3445	174277	16390	-1587	2520	191599
50	Legal services	81	17675	-71	821	-544	17881	1682	913	1009	21484
51	Educational services	82	32906	-133	1297	-667	33403	3141	-1552	101	35093
52	Social services and memo	83,84,86	93337	-377	4227	-1389	95798	9010	-8717	859	96950
53	Private households	88	17092	-69	404	-354	17073	1606	-1801	-846	16031
54	Miscellaneous professiona	89	22392	-91	-304	142	22140	2082	-285	1568	25505
55	Federal government	na	35148	-142	-1450	-234	33322	3134	-2478	1211	35289
56	Federal military	na	20601	-83	76	60	20653	1942	-2024	-75	20497
57	State and local governmen	na	293209	-1186	5427	-5743	291707	27434	-26637	5295	297800
58	Total		2209026	-8933	2853	-2726	2200221	206927	4329	4931	2416407
61	Agriculture	8-9	33641	-136	-30	-761	32714	3077	1198	4791	41780
62	Mining	10-14	7142	-29	-727	673	7058	664	-141	-744	6837
63	Construction	15-17	81872	-331	-4540	122	77123	7253	4222	-779	87819
64	Manufacturing	20-39	393528	-1591	-10021	4943	386859	36383	-6161	8281	425363
65	Nonurable goods	20-3,26-31	169259	-684	-1185	4430	171819	16159	-4594	-11208	172176
66	Durable goods	24-5,32-9	224269	-907	-8836	514	215040	20224	-1567	19490	253187
67	Transportation and public	40-42,44-49	109657	-443	991	496	110701	10411	-3817	-1568	115727
68	Trade	50-59	526413	-2129	-3518	-6172	514595	48397	11045	8518	582554
69	Finance, insurance, and	r60-67	127711	-516	-247	530	127477	11989	4290	-830	142927
70	Services	70-86,89	580104	-2346	16893	3360	598012	56242	24833	-19170	659917
71	Government		348958	-1411	4052	-5917	345682	32511	-31138	6430	353485

Source: Based on data series from US Department of Commerce, Regional Economic Information System, 1980-89; and US Department of Commerce, Office of Business Economics Regional Series, 1988-2010.



Table 7. Change sources of wage and salary employment in specified industry:  
Ks, 1985-2010

No.	Title	SIC Code	1985	Change, 1985-2010					2010
				US Growth	Industry Mix	State Share	Relative Change	Total Change	
			(no.)	(no.)	(no.)	(no.)	(no.)	(no.)	
1	Farm	01,02	30551	8460	-12409	-1384	-13793	-5333	25218
2	Agricultural services, forestry, fisheries	07-09	9845	2726	6375	-2075	4299	7025	16870
3	Metal mining	10	6204	1718	-771	-2432	-3203	-1485	4719
4	Coal mining	11,12	0	0	0	0	0	0	0
5	Oil and gas extraction	13	339	94	-220	-43	-264	-170	170
6	Nonmetallic minerals, except fuels	14	1594	441	-176	-97	-273	169	1762
7	Construction	15-17	73383	20320	-4195	-34	-4229	16090	89473
8	Food and kindred products	20	44553	12337	-12732	-709	-13441	-1104	43449
9	Tobacco manufactures	21	0	0	0	0	0	0	0
10	Textile mill products	22	2009	556	-485	-97	-582	-26	1983
11	Apparel and other textile products	23	2742	759	-957	452	-505	254	2996
12	Lumber and wood products	24	12818	3549	54	7456	7510	11060	23878
13	Furniture and fixtures	25	4584	1269	-215	1835	1620	2890	7474
14	Paper and allied products	26	33581	9299	-8665	-1296	-9962	-663	32918
15	Printing and publishing	27	43391	12015	2566	4175	6741	18756	62147
16	Chemicals and allied products	28	8532	2362	-2157	2263	106	2468	11000
17	Petroleum and coal products	29	1619	448	-697	271	-425	23	1642
18	Rubber and miscellaneous plastic products	30	11883	3290	-423	2550	2127	5417	17300
19	Leather and leather products	31	1947	539	-1237	342	-895	-356	1591
20	Stone, clay, and glass products	32	7989	2212	-1709	1599	-110	2103	10092
21	Primary metal industries	33	6159	1705	-2449	2753	305	2010	8169
22	Fabricated metal products	34	35620	9863	-11814	449	-11365	-1502	34118
23	Machinery, except electrical	35	90337	25014	-31669	2491	-29178	-4163	86174
24	Electric and electronic equipment	36	27934	7735	-9909	6994	-2914	4820	32754
25	Transportation equipment, excluding motor vehicles and equipment	37	3451	956	205	4676	4881	5837	9288
26	Motor vehicles and equipment	371	4070	1127	-1580	1181	-399	728	4798
27	Instruments and related products	38	27485	7611	-4589	4413	-176	7435	34920
28	Miscellaneous manufacturing industries	39	5911	1637	-1720	-645	-2365	-728	5183
29	Railroad transportation	40	9086	2516	-6415	119	-6296	-3780	5306
30	Local and interurban passenger transit	41	7612	2108	252	-513	-261	1847	9459
31	Trucking and warehousing	42	27185	7528	3929	-4097	-168	7359	34544
32	Water transportation	44	1198	332	-463	70	-393	-61	1137
33	Transportation by air	45	15059	4170	6939	-1570	5369	9538	24597
34	Pipelines, except natural gas	46	202	56	-84	30	-54	2	204
35	Transportation services	47	4919	1362	1586	-182	1404	2766	7685
36	Communication	48	20005	5539	-4936	184	-4752	787	20792
37	Electric, gas, and sanitary services	49	14416	3992	-1703	-716	-2419	1573	15989
38	Wholesale trade	50-51	117521	32541	-4057	-2874	-6930	25611	143132
39	Retail trade	52-59	357934	99111	23410	-18158	5252	104364	462298
40	Banking and credit agencies	60,61	41136	11391	-758	-3991	-4749	6641	47777
41	Insurance companies and investment services	62,67	11895	3294	2838	1629	4467	7761	19656
42	Insurance	63,64	41165	11399	5124	-968	4156	15535	56720
43	Real estate	65,66	19185	5312	1447	453	1900	7213	26398
44	Hotels and other lodging places	70	23843	6602	7443	-6546	897	7499	31342
45	Personal services	72	23287	6448	2368	3146	5514	11962	35249
46	Business and miscellaneous repair services	73,76	79330	21966	79709	1413	81122	103089	182419
47	Auto repair, services, and garages	75	20085	5562	4408	-110	4297	9859	29944
48	Amusement and recreation services and motion pictures	78-79	22188	6144	1702	-2270	-568	5576	27764
49	Health services	80	142923	39575	31077	-9977	21100	60675	203598
50	Legal services	81	13841	3833	6876	-916	5959	9792	23633
51	Educational services	82	28986	8026	453	-829	-376	7650	36636
52	Social services and membership organizations	83,84,86	73501	20352	8471	-910	7560	27913	101414
53	Private households	88	17660	4890	-6737	-376	-7113	-2823	15437
54	Miscellaneous professional services	89	18983	5256	3089	-618	2470	7727	26710
55	Federal government	na	31663	8767	-7592	1950	-5642	3126	34789
56	Federal military	na	17767	4920	-4802	2612	-2190	2730	20497
57	State and local government	na	259906	71968	-28877	-2693	-31570	40398	300304
58	Total		1961012	543002	23119	-11620	11500	554501	2515513
59	Agriculture	8-9	40396	1186	-6034	-3460	-9494	1692	42088
60	Mining	10-14	8137	2253	-1167	-2572	-3739	-1486	6651
61	Construction	15-17	73383	20320	-4195	-34	-4229	16090	89473
62	Manufacturing	20-39	376615	104284	-90181	41154	-49027	55258	431873
63	Nonurable goods	20-3, 26-31	150257	41606	-24787	7950	-16837	24769	175026
64	Durable goods	24-5, 32-9	226358	62678	-65394	33204	-32190	30488	256846
65	Transportation and public utilities	40-42, 44-49	39682	27602	-896	-6675	-27571	20031	119713
66	Trade	50-59	475455	131653	19354	-21032	-1678	129975	605430
67	Finance, insurance, and real estate	60-67	113381	31395	8652	-2877	5775	37170	150551
68	Services	70-86, 89	464627	128655	138858	-17994	120863	249518	714145
69	Government		309336	85655	-41271	1870	-39401	46254	355590

Source: Based on data series from US Department of Commerce, Regional Economic Information System, 1980-89; and US Department of Commerce, Office of Business Economics Regional Series, 1988-2010.

Table 8. Distribution of total jobs according to disbursement of production in specified industry:  
 An, 1985 and 2010

No.	Title	SIC Code	Total Resident		Excess		Deficit		Own		Required	
			1985	2010	1985	2010	1985	2010	1985	2010	1985	2010
			(pct.)	(pct.)	(pct.)	(pct.)	(pct.)	(pct.)	(pct.)	(pct.)	(pct.)	(pct.)
1	Farm	01,02	204.8	206.5	104.8	106.5	0.0	0.0	100.0	100.0	100.0	100.0
2	Agricultural service	07-09	75.6	68.9	0.0	0.0	-24.4	-31.1	75.6	68.9	100.0	100.0
3	Metal mining	10	598.4	439.4	498.4	339.4	0.0	0.0	100.0	100.0	100.0	100.0
4	Coal mining	11,12	1.2	2.1	0.0	0.0	-98.8	-97.9	1.2	2.1	100.0	100.0
5	Oil and gas extract	13	6.6	5.8	0.0	0.0	-93.4	-94.2	6.6	5.8	100.0	100.0
6	Nonmetallic minerals	14	76.5	71.7	0.0	0.0	-23.5	-28.3	76.5	71.7	100.0	100.0
7	Construction	15-17	86.7	85.1	0.0	0.0	-13.3	-14.9	86.7	85.1	100.0	100.0
8	Food and kindred prod	20	145.1	142.7	45.1	42.7	0.0	0.0	100.0	100.0	100.0	100.0
9	Tobacco manufactures	21	1.0	0.0	0.0	0.0	-99.0	-100.0	1.0	0.0	100.0	100.0
10	Textile mill product	22	15.5	14.8	0.0	0.0	-84.5	-85.2	15.5	14.8	100.0	100.0
11	Apparel and other text	23	19.0	20.8	0.0	0.0	-81.0	-79.2	19.0	20.8	100.0	100.0
12	Lumber and wood prod	24	101.9	144.2	1.9	44.2	0.0	0.0	100.0	100.0	100.0	100.0
13	Furniture and fixtures	25	51.0	66.5	0.0	0.0	-49.0	-33.5	51.0	66.5	100.0	100.0
14	Paper and allied prod	26	259.3	249.7	159.3	149.7	0.0	0.0	100.0	100.0	100.0	100.0
15	Printing and publishing	27	156.5	167.4	56.5	67.4	0.0	0.0	100.0	100.0	100.0	100.0
16	Chemicals and allied	28	42.9	54.0	0.0	0.0	-57.1	-46.0	42.9	54.0	100.0	100.0
17	Petroleum and coal prod	29	48.7	58.0	0.0	0.0	-51.3	-42.0	48.7	58.0	100.0	100.0
18	Rubber and miscellaneous	30	79.0	92.7	0.0	0.0	-21.0	-7.3	79.0	92.7	100.0	100.0
19	Leather and leather	31	60.1	76.6	0.0	0.0	-39.9	-23.4	60.1	76.6	100.0	100.0
20	Stone, clay, and glass	32	81.5	96.3	0.0	0.0	-18.5	-3.7	81.5	96.3	100.0	100.0
21	Primary metal industry	33	40.2	60.5	0.0	0.0	-59.8	-39.5	40.2	60.5	100.0	100.0
22	Fabricated metal prod	34	127.4	129.0	27.4	29.0	0.0	0.0	100.0	100.0	100.0	100.0
23	Machinery, except elec	35	215.2	221.6	115.2	121.6	0.0	0.0	100.0	100.0	100.0	100.0
24	Electric and electronic	36	66.5	84.6	0.0	0.0	-33.5	-15.4	66.5	84.6	100.0	100.0
25	Transportation equip	37	16.6	33.4	0.0	0.0	-83.4	-66.6	16.6	33.4	100.0	100.0
26	Motor vehicles and equip	371	24.3	32.3	0.0	0.0	-75.7	-67.7	24.3	32.3	100.0	100.0
27	Instruments and related	38	200.8	230.0	100.8	130.0	0.0	0.0	100.0	100.0	100.0	100.0
28	Miscellaneous manufactures	39	92.5	80.7	0.0	0.0	-7.5	-19.3	92.5	80.7	100.0	100.0
29	Railroad transportat	40	134.3	137.5	34.3	37.5	0.0	0.0	100.0	100.0	100.0	100.0
30	Local and interurban	41	126.8	119.4	26.8	19.4	0.0	0.0	100.0	100.0	100.0	100.0
31	Trucking and warehou	42	107.5	92.4	7.5	0.0	0.0	-7.6	100.0	92.4	100.0	100.0
32	Water transportation	44	35.5	39.0	0.0	0.0	-64.5	-61.0	35.5	39.0	100.0	100.0
33	Transportation by air	45	152.3	151.1	52.3	51.1	0.0	0.0	100.0	100.0	100.0	100.0
34	Pipelines, except nat	46	55.8	65.3	0.0	0.0	-44.2	-34.7	55.8	65.3	100.0	100.0
35	Transportation service	47	98.8	100.4	0.0	0.4	-1.2	0.0	98.8	100.0	100.0	100.0
36	Communication	48	79.3	79.8	0.0	0.0	-20.7	-20.2	79.3	79.8	100.0	100.0
37	Electric, gas, and san	49	84.8	81.7	0.0	0.0	-15.2	-18.3	84.8	81.7	100.0	100.0
38	Wholesale trade	50-51	104.8	102.6	4.8	2.6	0.0	0.0	100.0	100.0	100.0	100.0
39	Retail trade	52-59	105.8	101.5	5.8	1.5	0.0	0.0	100.0	100.0	100.0	100.0
40	Banking and credit	60,61	98.1	97.7	0.0	0.0	-1.9	-2.3	98.1	97.7	100.0	100.0
41	Insurance companies	62,67	107.3	116.2	7.3	16.2	0.0	0.0	100.0	100.0	100.0	100.0
42	Insurance	63,64	120.6	119.3	20.6	19.3	0.0	0.0	100.0	100.0	100.0	100.0
43	Real estate	65,66	89.5	88.2	0.0	0.0	-10.5	-11.8	89.5	88.2	100.0	100.0
44	Hotels and other lodg	70	95.1	78.7	0.0	0.0	-4.9	-21.3	95.1	78.7	100.0	100.0
45	Personal services	72	118.1	126.3	18.1	26.3	0.0	0.0	100.0	100.0	100.0	100.0
46	Business and miscell	73,76	87.3	87.9	0.0	0.0	-12.7	-12.1	87.3	87.9	100.0	100.0
47	Auto repair, service	75	102.1	100.8	2.1	0.8	0.0	0.0	100.0	100.0	100.0	100.0
48	Amusement and recrea	78-79	111.1	105.2	11.1	5.2	0.0	0.0	100.0	100.0	100.0	100.0
49	Health services	80	110.9	105.5	10.9	5.5	0.0	0.0	100.0	100.0	100.0	100.0
50	Legal services	81	88.4	85.8	0.0	0.0	-11.6	-14.2	88.4	85.8	100.0	100.0
51	Educational services	82	100.4	98.8	0.4	0.0	0.0	-1.2	100.0	98.8	100.0	100.0
52	Social services and	83,84,86	132.0	130.9	32.0	30.9	0.0	0.0	100.0	100.0	100.0	100.0
53	Private households	88	58.0	56.7	0.0	0.0	-42.0	-43.3	58.0	56.7	100.0	100.0
54	Miscellaneous profes	89	84.1	82.2	0.0	0.0	-15.9	-17.8	84.1	82.2	100.0	100.0
55	Federal government na	na	52.3	57.6	0.0	0.0	-47.7	-42.4	52.3	57.6	100.0	100.0
56	Federal military	na	33.7	39.0	0.0	0.0	-66.3	-61.0	33.7	39.0	100.0	100.0
57	State and local govern	na	94.6	100.4	0.0	0.4	-5.4	0.0	94.6	100.0	100.0	100.0
58	Total		100.0	100.0	11.7	9.4	-11.7	-9.4	88.3	90.6	100.0	100.0
59	Agriculture	8-9	173.4	148.8	79.3	61.8	-5.9	-13.1	94.1	86.9	100.0	100.0
60	Mining	10-14	36.0	40.4	23.8	22.7	-83.1	-78.4	12.2	17.7	100.0	100.0
61	Construction	15-17	86.7	85.1	0.0	0.0	-13.3	-14.9	86.7	85.1	100.0	100.0
62	Manufacturing	20-39	103.2	114.1	32.3	36.5	-29.0	-22.4	71.0	77.6	100.0	100.0
63	Nonurable goods	20-3,26-3	101.8	110.9	33.6	36.4	-31.8	-25.6	68.2	74.4	100.0	100.0
64	Durable goods	24-3,32-9	104.2	116.5	31.4	36.6	-27.2	-20.2	72.8	79.8	100.0	100.0
65	Transportation and	40-42,44-	100.9	97.8	10.6	8.7	-9.7	-10.9	90.3	89.1	100.0	100.0
66	Trade	50-59	105.6	101.8	5.6	1.8	0.0	0.0	100.0	100.0	100.0	100.0
67	Finance, insurance,	60-67	39.7	99.8	3.3	3.8	-3.5	-4.0	96.5	96.0	100.0	100.0
68	Services	70-86,89	100.7	97.9	7.7	5.8	-7.0	-8.0	93.0	92.0	100.0	100.0
69	Government		79.7	86.3	0.0	0.3	-20.3	-14.0	79.7	86.0	100.0	100.0

Source: Based on data series from US Department of Commerce, Regional Economic Information System, 1980-89; a US Department of Commerce, Office of Business Economics Regional Series, 1988-2010.

Table 9. Proportion of total jobs attributed to employment in specified industry, by activity:  
NA, 1985 and 2010

No. Title	SIC Code	Total Resident		Excess		Deficit		Own		Required	
		1985	2010	1985	2010	1985	2010	1985	2010	1985	2010
		(pct.)	(act.)	(pct.)	(pct.)	(act.)	(pct.)	(pct.)	(pct.)	(pct.)	(pct.)
1 Farm	01,02	5.4	3.5	23.7	19.2	0.0	0.0	3.0	1.9	2.6	1.7
2 Agricultural services, fo	07-09	0.6	0.8	0.0	0.0	1.8	4.1	0.7	0.9	0.8	1.2
3 Metal mining	10	0.3	0.2	1.9	1.3	0.0	0.0	0.0	0.0	0.0	0.0
4 Coal mining	11,12	0.0	0.0	0.0	0.0	1.3	0.9	0.0	0.0	0.2	0.1
5 Oil and gas extraction	13	0.0	0.0	0.0	0.0	5.1	3.3	0.0	0.0	0.6	0.3
6 Nonmetallic minerals, excl	14	0.1	0.1	0.0	0.0	0.2	0.2	0.1	0.1	0.1	0.1
7 Construction	15-17	4.2	4.0	0.0	0.0	5.6	7.6	4.8	4.5	4.9	4.7
8 Food and kindred products	20	1.8	1.4	4.8	4.4	0.0	0.0	1.4	1.1	1.2	1.0
9 Tobacco manufactures	21	0.0	0.0	0.0	0.0	0.4	0.3	0.0	0.0	0.0	0.0
10 Textile mill products	22	0.1	0.1	0.0	0.0	3.9	4.0	0.1	0.1	0.5	0.4
11 Apparel and other textile	23	0.2	0.1	0.0	0.0	6.2	5.4	0.2	0.1	0.9	0.6
12 Lumber and wood products	24	0.6	0.9	0.1	2.8	0.0	0.0	0.7	0.7	0.6	0.6
13 Furniture and fixtures	25	0.2	0.2	0.0	0.0	1.7	1.3	0.2	0.3	0.4	0.4
14 Paper and allied products	26	1.3	1.0	7.1	6.6	0.0	0.0	0.6	0.5	0.5	0.4
15 Printing and publishing	27	1.8	2.0	5.6	8.8	0.0	0.0	1.3	1.3	1.2	1.2
16 Chemicals and allied prod	28	0.3	0.3	0.0	0.0	3.9	3.2	0.4	0.4	0.8	0.6
17 Petroleum and coal produc	29	0.1	0.1	0.0	0.0	0.6	0.4	0.1	0.1	0.1	0.1
18 Rubber and miscellaneous	30	0.5	0.5	0.0	0.0	1.1	0.5	0.5	0.6	0.6	0.6
19 Leather and leather produ	31	0.1	0.1	0.0	0.0	0.4	0.2	0.1	0.1	0.1	0.1
20 Stone, clay, and glass pr	32	0.4	0.4	0.0	0.0	0.8	0.2	0.4	0.4	0.5	0.4
21 Primary metal industries	33	0.2	0.3	0.0	0.0	3.2	1.8	0.3	0.3	0.6	0.4
22 Fabricated metal products	34	1.5	1.1	2.7	2.6	0.0	0.0	1.3	0.9	1.1	0.8
23 Machinery, except electric	35	3.7	2.7	16.8	16.0	0.0	0.0	1.9	1.4	1.7	1.2
24 Electric and electronic e	36	1.1	1.0	0.0	0.0	4.9	2.0	1.3	1.1	1.7	1.2
25 Transportation equipment,	37	0.1	0.3	0.0	0.0	6.0	6.3	0.2	0.3	0.8	0.9
26 Motor vehicles and equipm	371	0.2	0.2	0.0	0.0	4.4	3.4	0.2	0.2	0.7	0.5
27 Instruments and related p	38	1.1	1.1	4.7	6.6	0.0	0.0	0.6	0.5	0.5	0.5
28 Miscellaneous manufactur	39	0.3	0.2	0.0	0.0	0.2	0.5	0.4	0.2	0.3	0.3
29 Railroad transportation	40	0.4	0.2	0.8	0.5	0.0	0.0	0.3	0.1	0.3	0.1
30 Local and interurban pass	41	0.3	0.3	0.6	0.6	0.0	0.0	0.3	0.3	0.3	0.3
31 Trucking and warehousing	42	1.5	1.4	0.9	0.0	0.0	1.2	1.6	1.5	1.4	1.5
32 Water transportation	44	0.1	0.0	0.0	0.0	0.9	0.7	0.1	0.0	0.2	0.1
33 Transportation by air	45	0.6	0.8	1.8	3.0	0.0	0.0	0.5	0.6	0.4	0.5
34 Pipelines, except natural	46	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
35 Transportation services	47	0.3	0.3	0.0	0.0	0.0	0.0	0.3	0.4	0.3	0.3
36 Communication	48	0.8	0.7	0.0	0.0	1.9	1.8	0.9	0.7	1.0	0.8
37 Electric, gas, and sanita	49	0.6	0.6	0.0	0.0	1.0	1.3	0.7	0.6	0.7	0.7
38 Wholesale trade	50-51	4.9	4.6	1.9	1.3	0.0	0.0	5.3	5.0	4.7	4.5
39 Retail trade	52-59	16.3	16.2	7.7	2.6	0.0	0.0	17.4	17.7	15.4	16.0
40 Banking and credit agenc	60,61	6.8	6.9	0.0	0.0	1.2	1.8	7.7	7.7	7.0	7.1
41 Holding companies and inv	62,67	0.7	0.8	0.4	1.3	0.0	0.0	0.7	0.8	0.6	0.7
42 Insurance	63,64	2.0	2.2	3.0	3.8	0.0	0.0	1.9	2.1	1.7	1.9
43 Real estate	65,66	2.5	2.5	0.0	0.0	2.5	3.6	2.8	2.8	2.8	2.8
44 Hotels and other lodging	70	1.1	1.1	0.0	0.0	0.5	3.2	1.2	1.2	1.1	1.4
45 Personal services	72	2.2	2.6	2.9	5.7	0.0	0.0	2.1	2.2	1.9	2.0
46 Business and miscellaneous	73,76	4.7	8.2	0.0	0.0	5.9	12.1	5.4	9.1	5.4	9.4
47 Auto repair, services, an	75	0.9	1.1	0.2	0.1	0.0	0.0	1.0	1.2	0.9	1.1
48 Amusement and recreation	78-79	1.4	1.4	1.2	0.7	0.0	0.0	1.4	1.4	1.2	1.3
49 Health services	80	6.0	6.7	5.1	3.8	0.0	0.0	6.1	7.0	5.4	6.4
50 Legal services	81	0.7	0.9	0.0	0.0	0.8	1.6	0.8	1.0	0.8	1.1
51 Educational services	82	1.3	1.3	0.0	0.0	0.0	0.2	1.5	1.5	1.3	1.3
52 Social services and memo	83,84,86	2.9	3.2	6.1	8.0	0.0	0.0	2.5	2.7	2.2	2.4
53 Private households	88	0.7	0.5	0.0	0.0	4.4	3.9	0.8	0.5	1.2	0.9
54 Miscellaneous profession	89	1.5	1.7	0.0	0.0	2.5	3.9	1.7	1.8	1.8	2.0
55 Federal government	na	1.3	1.1	0.0	0.0	9.9	8.6	1.4	1.2	2.4	1.9
56 Federal military	na	0.7	0.6	0.0	0.0	12.0	10.7	0.8	0.7	2.1	1.6
57 State and local governm	na	10.4	9.4	0.0	0.4	5.1	0.0	11.8	10.3	11.0	9.3
58 Total		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
59 Agriculture	8-9	6.0	4.3	23.7	19.2	1.8	4.1	3.7	2.8	3.5	2.9
60 Mining	10-14	0.4	0.2	1.9	1.3	6.6	4.4	0.2	0.1	0.9	0.5
61 Construction	15-17	4.2	4.0	0.0	0.0	5.6	7.6	4.8	4.5	4.9	4.7
62 Manufacturing	20-39	15.6	14.0	41.8	47.8	37.6	29.3	12.1	10.5	15.1	12.2
63 Nonurable goods	20-3,26-31	6.2	5.6	17.5	19.7	16.5	13.9	4.7	4.2	6.1	5.1
64 Durable goods	24-5,32-9	9.4	8.3	24.3	28.0	21.1	15.4	7.4	6.3	9.0	7.2
65 Transportation and public	40-42,44-49	4.6	4.3	4.1	4.1	3.7	5.1	4.6	4.3	4.5	4.4
66 Trade	50-59	21.2	20.9	9.6	3.8	0.0	0.0	22.7	22.6	20.1	20.5
67 Finance, insurance, and	60-67	12.0	12.5	3.4	5.1	3.7	5.4	13.1	13.3	12.0	12.5
68 Services	70-86,89	23.6	28.6	15.5	18.3	14.1	24.9	24.7	29.7	23.4	29.3
69 Government		12.4	11.1	0.0	0.4	27.0	19.3	14.0	12.2	15.5	12.9

Source: Based on data series from US Department of Commerce, Regional Economic Information System, 1980-89; and US Department of Commerce, Office of Business Economics Regional Series, 1988-2010.

Table 10. Total employment (job count) and earnings per job (1982\$) in specified sector:  
Mn, 1980-2010

no.	Title	Units	1980	1982	1985	1987	1988	1990	1991	1995	2000	2010
1	All jobs	thousands	2340.3	2290.0	2511.1	2631.8	2712.1	2807.8	2801.8	3122.5	3093.1	3226.1
2	Farm	thousands	152.5	154.6	150.9	143.5	143.1	156.6	157.4	142.6	142.5	138.6
3	nonfarm, total	thousands	2187.8	2135.5	2360.2	2488.3	2569.0	2651.2	2644.5	2979.9	2950.6	3087.5
4	Private	thousands	2015.7	1983.4	2185.8	2288.5	2360.5	2479.4	2476.8	2776.3	2715.7	2843.6
5	Government	thousands	310.9	292.1	309.3	326.7	334.2	328.4	325.0	346.2	353.5	355.6
9	wage and salary jobs	thousands	1878.6	1808.3	1970.9	2071.7	2135.7	2227.1	2217.5	2321.5	2431.4	2532.4
10	Farm	thousands	40.2	41.8	40.4	39.6	39.3	33.9	31.8	40.8	41.8	42.1
11	nonfarm, total	thousands	1838.4	1766.5	1930.5	2032.1	2096.4	2193.2	2185.8	2280.6	2389.6	2490.3
12	Private	thousands	1559.2	1507.5	1651.7	1734.9	1790.6	1866.5	1859.7	1961.8	2062.9	2159.9
13	Government	thousands	310.9	292.1	309.3	326.7	334.2	348.9	345.7	346.2	353.5	355.6
14	Total labor earnings	mil. dol.	36788	35178	39755	42717	44074	45868	45678	50870	55726	63109
15	Farm	mil. dol.	1682	1269	1523	1911	1483	2358	2523	1746	1831	1987
16	nonfarm, total	mil. dol.	35106	33909	38233	40806	42591	43510	43156	49125	53895	61122
17	Private	mil. dol.	31682	29983	34052	36651	37817	39688	39576	44038	48444	55156
18	Government	mil. dol.	4936	5037	5542	5869	6058	6181	6103	6584	6990	7608
23	wages and salaries	mil. dol.	29079	28517	31975	34086	35519	36263	35916	40768	44420	50201
24	Farm	mil. dol.	325	307	282	288	287	307	310	346	376	422
25	nonfarm	mil. dol.	28754	28209	31693	33798	35231	35956	35607	40423	44044	49779
26	Private	mil. dol.	24360	23740	26743	28558	29830	30570	30312	34585	37861	43062
27	Government	mil. dol.	4719	4777	5233	5528	5689	5693	5605	6183	6560	7140
28	Earnings per job:											
29	Total labor earnings	dollars	15719	15361	15832	16231	16251	16336	16303	16292	18016	19562
30	Farm	dollars	11026	8211	10089	13312	10362	15062	16031	12242	12848	14335
31	nonfarm, total	dollars	16046	15879	16199	16399	16579	16411	16319	16486	18266	19797
32	Private	dollars	15718	15117	15579	16015	16020	16007	15978	15862	17839	19396
33	Government	dollars	15877	17243	17917	17966	18129	18823	18776	19019	19775	21396
38	wages and salaries	dollars	15479	15770	16224	16453	16631	16282	16197	17562	18269	19824
39	Farm	dollars	8084	7350	6988	7276	7317	9056	9752	8468	9009	10031
40	nonfarm	dollars	15641	15969	16417	16632	16806	16394	16290	17724	18431	19989
41	Private	dollars	15623	15747	16191	16461	16659	16379	16299	17629	18353	19937
42	Government	dollars	15179	16352	16916	16922	17024	16314	16214	17861	18557	20078
43	Total population	thousands	4085	4134	4191	4245	4308	4389	4425	4538.0	4657.0	4869.0
44	Popn under 18	thousands	1111	1124			1120		1153	1136	1071	
45	Popn 18-65	thousands	2474	2503			2648		2803	2929	3145	
46	Popn 65 and over	thousands	501	507			540		568	592	654	

Source: Based on data series from US Department of Commerce, Regional Economic Information System, 1980-89; and US Department of Commerce, Office of Business Economics Regional Series, 1988-2010.

Table 11. Total personal income payments (1982 dollars) of specified sectors:  
Mn, 1980-2010

no.	Title	1980	1982	1985	1987	1988	1990	1991	1995	2000	2010
		(mil.\$.)	(mil.\$.)	(mil.\$.)	(mil.\$.)	(mil.\$.)	(mil.\$.)	(mil.\$.)	(mil.\$.)	(mil.\$.)	(mil.\$.)
1	Earnings, by place of work	36618	35020	39594	42519	43875	45868	45678	50622	55435	62764
2	Less: personal contr. for soc	2141	2309	2735	2895	3133	3248	3358	3722	4076	4614
3	Plus: residence adjustment	-120	-111	-209	-288	-292	-309	-308	-2011	-2202	-2494
4	Equals: earnings, by pl. of r	34357	32600	36651	39336	40450	42311	42012	44889	49157	55656
5	Plus: dividends, interest, re	6887	8245	8984	8870	8859	9928	9858	10533	11535	13060
6	Plus: transfer payments	6212	6889	7461	7493	7687	8279	8221	8783	9618	10890
7	Equals: total personal income	47456	47734	53095	55700	56997	60518	60091	64205	70310	79606
8	Less: pers. tax & nontax paym	7789	8067	8460	9587	9298	10017	10386	11097	12152	13759
9	Equals: pers. disposable inco	39667	39667	44635	46112	47699	50501	49705	53108	58158	65847
10	Less: personal savings	2312	2746	2004	1356	2021	2330	2471	2641	2892	3274
11	Equals: pers. cons. expencitu	37354	36921	42631	44755	45678	48171	47234	50468	55266	62573
12	Total population (thousands)	4085	4134	4191	4245	4308	4389	4425	4538.0	4657.0	4869.0

Source: Based on data series from US Department of Commerce, Regional Economic Information System, 1980-89; and US Department of Commerce, Office of Business Economics Regional Series, 1988-2010.