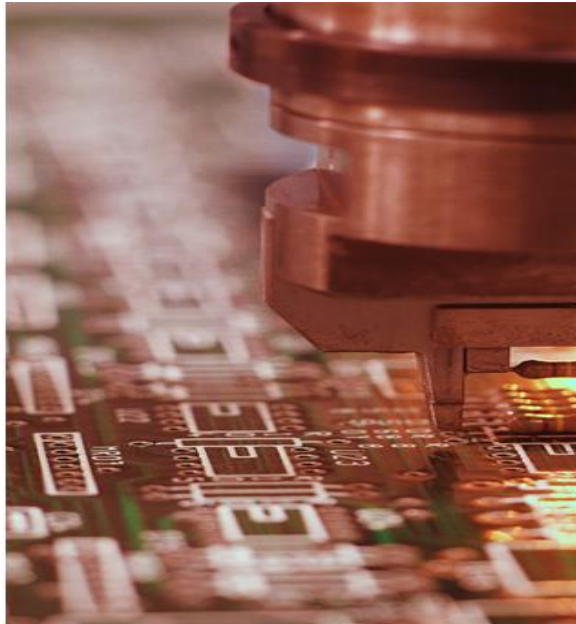


Manufacturing Wage and Benefit Survey in Coffee, Franklin and Lincoln Counties



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Coffee County Industrial Development Board
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Executive Summary

The Business and Economic Research Center (BERC), Middle Tennessee State University, conducted a wage and benefit survey of the manufacturing sector in Coffee, Franklin, and Lincoln counties between April and May 2011. The wage and benefit survey was sponsored by the South Central Tennessee Development District in cooperation with the industrial development boards of Coffee, Franklin, and Lincoln counties. The purpose of the survey is to provide local economic development officials and human resource managers a clear understanding of the compensation structure in the key manufacturing occupations in the three-county area.

All manufacturing companies were invited to participate in this online wage and benefit survey. As of May 24, 2011, the BERC received 44 completed surveys with a response rate of 30.14 percent. These 44 companies employed 3,034 people representing about 28 percent of all manufacturing jobs in the study market area. The wage and benefit survey data is organized by establishment size and the BERC provides a detailed profile of each of 24 occupations out of the 50 covered occupations.

Key Highlights:

General:

- The number of weekly hours in the manufacturing sector is estimated at 38.5 hours.
- Average annual sales of the covered establishments are \$10,300,861.
- An estimated 95.5 percent of the manufacturing companies offer paid holidays of eight days.
- A little over 70 percent of the covered establishments offer an average nine days of annual vacations.

Health Insurance and Benefits:

- An estimated 84 percent of the manufacturing companies offer health insurance. Premium cost-sharing is a common practice among the companies.
- Companies offer a range of retirement benefits including traditional retirement plan, and defined contributions. About 50 percent of the responding companies offer defined contribution plans.
- One-third of the companies offer tuition payment and other incentives to their employees.
- Overall, total employee benefits account for 18.2 percent of the wage and salaries in the study market area.

Wages:

- The median hourly wage across the occupations in the study market area is \$16.
- The median trainee level wage is \$9.57 per hour, while median entry level wage is running around \$11.54 per hour. The study provides a rich detail of wages and benefits for each occupational cluster.

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I. Introduction

The Business and Economic Research Center (BERC), Middle Tennessee State University, conducted a wage and benefit survey of the manufacturing sector in Coffee, Franklin, and Lincoln counties between April and May 2011. The wage and benefit survey was sponsored by the South Central Tennessee Development District in cooperation with the industrial development boards of Coffee, Franklin, and Lincoln counties. The purpose of the survey is to provide local economic development officials and human resource managers a clear understanding of the compensation structure in the key manufacturing occupations in the three-county area.

In designing the online wage and benefit survey, the BERC consulted existing wage and benefits surveys as well as the BLS methodology for the Quarterly Census of Employment and Wages (QCEW) and the BLS Occupational Handbook to make the regional survey results comparable to the national and state level occupational characteristics. In the survey process, the BERC retained the Standard Occupational Classification (SOC) codes for all occupations included in the survey.

To make the survey process manageable and less time-consuming for the manufacturing companies, the BERC, in consultation with the representatives of local industrial development boards, targeted 50 manufacturing occupations. These original occupations are presented in Appendix with the estimated number of local jobs by occupation. Although this study gathered information for each of the 50 occupations, the survey response rate didn't allow a detailed profile of nearly half of these occupations. A detailed occupational profile allows local economic development officials and the manufacturing companies to see how a given occupation benchmarked against the average manufacturing jobs in the region.

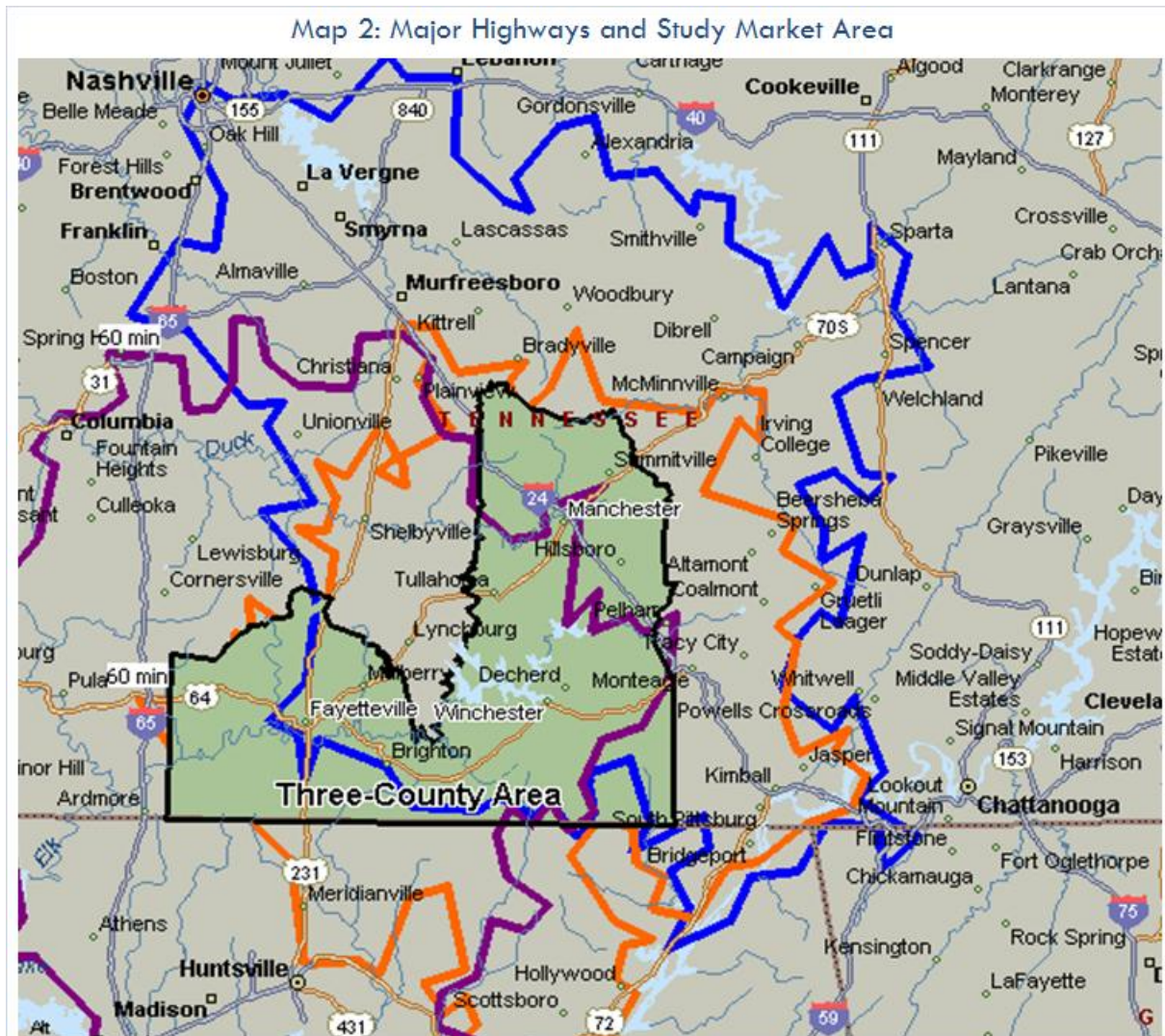
The rest of the report is organized as follows: after a brief discussion about the study region, study tasks, and general characteristics of the manufacturing industry in the region, section two introduces conceptual framework and study methodology. Section three analyzes survey results, while section four provides rich details for the selected manufacturing occupations. Section five presents survey materials.

I.A. Study Region

What is the study market area? The study market area includes three counties in south central Tennessee: Coffee, Franklin, and Lincoln counties with a combined labor force of 63,545 as of April 2011. The study market area is conveniently located between Nashville, TN and Huntsville, AL. Map 1 below shows one-hour driving distance from the county seat of each of these three counties: Manchester, Coffee County; Winchester, Franklin County; and Fayetteville, Lincoln County. From a central location in the study market area, residents and businesses are able to reach three major metropolitan areas (the Nashville MSA, Huntsville MSA, and Chattanooga MSA) in 60 minutes.



Map 2 presents the same market area with major connector highways. Interstate highway 24 connects the study market area to Nashville and Chattanooga. Similarly, interstate highway 65 connects the market area to Nashville and Huntsville, AL. This connectivity to the major metropolitan centers is further reinforced by the state highway 64, which connects interstate highways 24 and 65.



I.B. Study Tasks and Research Questions

What is the purpose of this study? Which sectors are surveyed? What types of occupational data are collected? This section addresses these questions briefly while the next section treats the methodological issues. Primary research questions that this survey addresses are

- what is the compensation structure in the manufacturing sector in this three-county area?
- what are the characteristics of the key manufacturing occupations?
- how do average wages for the key manufacturing occupations compare with overall average wage in the study region and state?

The purpose of this study is to answer these questions in a way that helps (1) human resource managers in the study region make informed decisions about the prevailing compensation structure when making hiring decisions, and (2) local economic development officials understand the compensation structure in their market when helping prospective businesses successfully transition to their region.

The wage and benefit survey targets the key occupations in the manufacturing sector. The share of the manufacturing employment in the study market area is relatively higher compared to the state and the nation. Overall, one in every five jobs in the study market area is in the manufacturing sector. The strength of the manufacturing sector and ongoing transition of the study market area to the high technology manufacturing are the primary reasons for targeting this sector in this study.

In terms of compensation structure and occupational characteristics, the wage and benefit survey captures wages and benefits for each occupation as well as the occupational characteristics, such as educational and licensing requirements, difficulty of filling the vacant position, trainee and entry level wages, and union membership. On the benefit side, the survey covers annual paid and unpaid leaves, sick leave, personal days-off, medical, dental and vision insurance, retirement benefits, and incentives. Although the wage and benefit survey includes rich details about the manufacturing occupations, many of the completed surveys do not provide enough information about some of the employee characteristics. Because of the missing data on the selected occupational characteristics for some occupations, the BERC only profiled less than half of the surveyed occupations.

I.C. Manufacturing Sector in Coffee, Franklin, and Lincoln Counties

Accounting for the manufacturing jobs in rural counties is a challenging task. The challenge is not because of the data suppression; rather it is because of the rules and regulations allowing the parent companies to report all jobs from their branch operations in the jurisdiction where their administrative units are located. Because of this fact, local knowledge about the manufacturing jobs is critically important. The case in point is Franklin County, where the QCEW estimates show about 1,625 manufacturing jobs. Missing in these estimates are several branch operations in the county employing more than 2,000 additional people. When added together, the county manufacturing jobs reach more than 3,700, nearly 130 percent higher than the official figures.

Because of the large discrepancies in the manufacturing employment, this section briefly summarizes the BERC's estimates of the manufacturing employment in the study market area. The BERC's estimates rely on several sources including QCEW, local industrial development boards, Dunn & Bradstreet through LexisNexis Academic, and individual company web sites. Table 1 presents employment and average wages in the study market area. In the combined study market area, nearly one in every five jobs is in the manufacturing sector with an average wage of \$38,588, more than 10 percent higher than the average wage for all sectors. By county, the manufacturing jobs pay significantly higher than the overall economy in Coffee (14 percent) and Lincoln (20 percent) counties. In Franklin County, wages across the sectors do not differ significantly.

Table 1: A perspective on Regional Employment and Wages

Market Area	All Sectors		Manufacturing Sector	
	Number of Jobs	Average Wage*	Number of Jobs	Average Wage*
Coffee County	23,047	\$37,808	4,407	\$42,927
Franklin County	17,716	\$31,643	3,709	\$31,108
Lincoln County	16,161	\$29,938	2,648	\$36,563
Market Area Combined	56,924	\$34,687	10,764	\$38,588

Source: QCEW and the BERC's estimates

*Average wage is primarily based on covered wages and employment.

II. Conceptual Framework and Methodology

The wage and benefit survey of the manufacturing sector was an online survey with multiple mail reminders and a phone call to all manufacturers in the study market area. In this section, we briefly go over issues regarding the survey design and analysis as well as define certain concepts that are used throughout the data analysis section.

II.A. Definitions

The following concepts will be used throughout the rest of the report:

Annual Wage: Annual wage is annualized salary and wages and calculated as follows:

$$\begin{aligned} \text{Annual Wage} &= 52 \times \text{Weekly Wage (1 Year = 52 Weeks)} \\ &= 52 \times (40 \times \text{Hourly Wage}) \text{ (1 Week = 40 Hours)} \\ &= 52 \times (5 \times 8 \times \text{Hourly Wage}) \text{ (Work Week = 5 Days; and 1 Day = 8 Hours)} \end{aligned}$$

Mean (Average) Wage: Average wage is the sum of the wages divided by the number of reporting establishments.

$$\begin{aligned} \text{Average Wage} &= (\text{sum of the wages}) / (\text{number of establishments reporting that occupation}) \text{ or} \\ \text{Weighted Average Wage} &= (\text{sum of the total wages for an occupation}) / (\text{number of jobs in that occupation}) \end{aligned}$$

Median (Middle Position) Wage: Median wage represents the wage level where 50 percent of wages fall above and 50 percent of the wages fall below.

Difficulty of Filling: Difficulty of filling a vacant position: 1 being extremely easy, and 10 being extremely difficult.

II.B. Survey Design

The BERC designed the survey in consultation with the local economic development officials. A list of local manufacturing companies was prepared, and each company was assigned a unique ID and password to access the online survey, which was hosted on the BERC website. The wage and benefit survey included a section about each company's total employment, annual revenues, and percent of part-time workers. The second section in the survey included a list of benefits a typical business offers to its employees.

The occupational employment section was carefully prepared. Using the BLS (www.bls.gov) staffing pattern for the manufacturing sector, the BERC in consultation with the local economic development officials prepared a list of 50 occupations to be surveyed. The BERC retained the original SOC code and title for the occupations for the purpose of comparing the local compensation structure with the regional, state, or national compensation structure for the same occupation.

The survey also included several characteristics of each occupation for a detailed analysis. These characteristics are: number of jobs, part-time status, trainee level wage, entry level wage, current wage, number of vacancies, licensing requirement, degree requirement, and difficulty of filling a vacant position. For further detail about the survey, see Appendix.

II.C. Survey Process and Data

The BERC conducted an online wage and benefit survey between April 2011 and May 2011. All manufacturing companies in the study market area received a cover letter and printed copy of the survey as well as instructions for online completion. Initially, 159 manufacturing companies received the survey. The BERC received 13 survey packages back as undeliverable. With the subsequent phone calls, the BERC determined that these 13 companies are either out of business or relocated from the study market area. As a result, the number of companies surveyed drop to 146.

To increase the sample size, the BERC made several follow-ups to the initial letter. Two weeks after the initial letter, the BERC sent a reminder letter to all establishments. A second reminder with the printed survey package was sent two weeks after the first reminder. Finally, in the last three weeks of the survey, the BERC called all unresponsive employers. Final tally is shown in Table 2. The BERC received 44 completed surveys with a response rate of 30.14 percent.

Table 2: Wage and Benefit Survey Procedure and Response Rate

	Combined Market Area	By County		
		Coffee County	Franklin County	Lincoln County
Number of Companies Surveyed	146	56	37	53
Number of Completed Surveys	44	18	10	16
Response Rate	30.14%	32.14%	27.03%	30.19%

Survey Procedure

Mode:	Online Survey
Initial Letter:	Cover Letter with Survey Package, Company ID and Password
Reminder 1:	Postcard
Reminder 2:	Letter with the Printed Survey Materials
Reminder 3:	Phone Calls to All Nonresponsive Companies
Survey Closing Date:	May 24th, 2011

II.D. Data Analysis

The BERC checked all survey data for accuracy and consistency. The cleaned survey database contains a unique company code and survey responses to each of the survey categories. The manufacturing companies did not respond to every occupation initially included in the survey; overall, the manufacturing companies supplied information for 43 occupations out of 50. However, there are 19 additional occupations for which wage data is available either from less than four companies or for fewer than four occupations. Because of low response rates for 19 occupations, the BERC provided a detailed profile for each of the 24 occupations. In the following section, the BERC presents the survey results for the manufacturing wage and benefit survey.

III. Survey Results

This section provides a comprehensive analysis of the wage and benefit survey. First, the BERC regroups the companies by employment size using the following four categories:

- Less Than 10
- 10-25
- 26-60
- More Than 60.

Except the wage by occupation, all major categories of data are presented using these four categories. Where data is available, the BERC presents the survey findings using both unweighted (by establishment) and weighted (by number of jobs) mean and median.

Occupational wages include both hourly and annualized wages, which assume 40 hours of workweek and 52 annual workweeks.

III. Establishment Size, Employment and Revenue

Nearly one-fourth of the companies surveyed have less than 10 employees. Overall, the number of jobs reported by 44 companies is 3,034, representing more than 28 percent of all manufacturing jobs in the study market area. A little over 80 percent of employees work for the companies employing more than 60 people. As Table 3 indicates, the number of part-time jobs at these companies is nearly 13 percent.

Table 3: Wage and Benefit Survey: Employment by establishment Size and Part-Time Status

Employment Size	Number of Companies	Number of Employees			Part-Time Workers (%)
		Total	Median	Average	
Less Than 10	13	70	5	5	10.03%
10-25	10	164	16	16	12.81%
26-60	10	371	31	37	5.65%
More than 60	11	2,429	150	221	13.71%
Grand Total	44	3,034	25	70	12.59%

Average weekly hours. Table 4 below presents average weekly hours in the manufacturing sector in the study market area. Nationally, as of May 2011, average weekly hours for production and supervisory workers in the manufacturing sector was 41.4 hours. The number of hours worked per week in manufacturing tends to go down during the recessionary periods (www.bls.gov).

Table 4: Wage and Benefit Survey: Average Weekly Hours

Employment Size	Average Weekly Hours	Median Weekly Hours
Less Than 10	38.8	40.0
10-25	34.9	39.0
26-60	41.5	40.0
More than 60	38.6	40.0
Grand Total	38.5	40.0

In general, median weekly work hours are 40 in the study market area. Average weekly hours stand around 38.5, which is nearly 2 hours less than the national average. Table 4 shows the discrepancy among the companies with different employment size: Average weekly work hours for employees working at the companies in the 26 to 60 employment range are 41.5, which is slightly higher than the national average. On the other end of the spectrum are the companies with employments ranging from 10 to 25 whose average weekly work hours are less than 35. Given the median weekly hours of 39, the findings suggest a statistical anomaly because of the small sample size.

Average Revenues and Union Membership. A few companies in the study market area have a unionized workforce. Because these companies represent about seven percent of the total responses, the BEREC excluded them from a detailed analysis.

How about the average annual revenues? Unfortunately, not all companies reported their annual sales figures. Based on the data from 61 percent of the responses, Table 5 shows average and median annual revenues by establishment size in the study market area. Overall, average annual sales of the manufacturing companies in the study market area amounts to \$10.3 million. Given the total number of manufacturing companies (146 of them) in the study market area, this roughly translates into \$1.5 billion manufacturing output.

Table 5: Wage and Benefit Survey: Average Annual Sales

Employment Size	Number of Companies Reporting	Average Sales	Median Sales
Less Than 10	11	\$1,158,636	\$850,000
10-25	5	\$2,617,400	\$2,000,000
26-60	7	\$5,020,464	\$3,100,000
More than 60	4	\$54,287,000	\$27,500,000
Grand Total	27	\$10,300,861	\$2,148,000

III.B. Employee Benefits

The BERC asked three sets of questions regarding the employee benefits: Time off, medical insurance, and retirement and other benefits. This section first provides a brief overview of the employer responses for each category and then analyzes each specific benefit in further detail.

Time off. Under this category of benefits, the BERC included paid and unpaid holidays, annual vacations, annual sick leave, paid jury duty, personal paid time-off, and time-off to vote. These benefit categories are very much in line with other wage and benefit studies as well as official methodologies such as BLS (www.bls.gov). What tops the chart in Table 6 is three major benefits: paid holidays, paid jury duty, and annual vacations. Nearly 96 percent of the manufacturing employers offer paid holidays; 82 percent paid jury duty; and 71 percent annual vacations.

Table 6: Wage and Benefit Survey: Benefits (Time off)

Type of Benefit	Number of Responses	Percent of Companies
Paid Holidays	42	95.5%
Unpaid Holidays	3	6.8%
Annual Vacations	31	70.5%
Annual Sick Leave	13	29.5%
Paid Jury Duty	36	81.8%
Personal Paid Time off	15	34.1%
Time-off to Vote	14	31.8%

How do paid holidays, annual vacations, and annual sick leave vary by employment size? Chart 1 below presents median and average paid holidays by employment size. On average, the study market area manufacturing companies offer eight paid holidays annually. However, large companies seem to be able to accommodate more paid holidays as presented in Chart 1: more than 50 percent of manufacturing companies with the employment size from 61 and larger offer more than 10 days of paid holidays. Chart 2 provides a frequency distribution of paid holidays by number of companies.

Chart 1: Wage and Benefit Survey: Average Paid Holidays by Employment Size

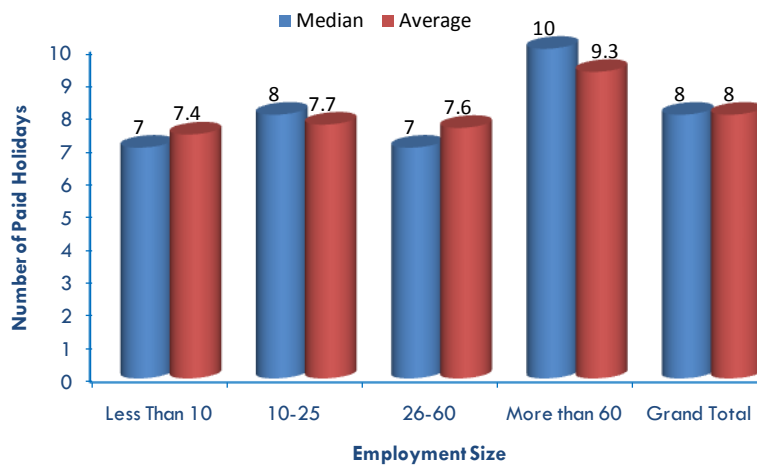


Chart 2: Wage and Benefit Survey: Number of Paid Holidays



Chart 3 presents median and average annual vacations by the company size. Overall, average vacations after one year of employment in the study market area is nine days. In interpreting vacation days, the BERC cautions the reader that many companies have graduated vacation days that change with employees' tenure at a given company. The number of vacation days presented in Charts 3 and 4 suggest that if you become an employee of an area manufacturing company, on average you expect to get nine vacation days. Many employees offer five days of vacation as seen in Chart 4.

Chart 3: Wage and Benefit Survey: Vacation Days by Employment Size

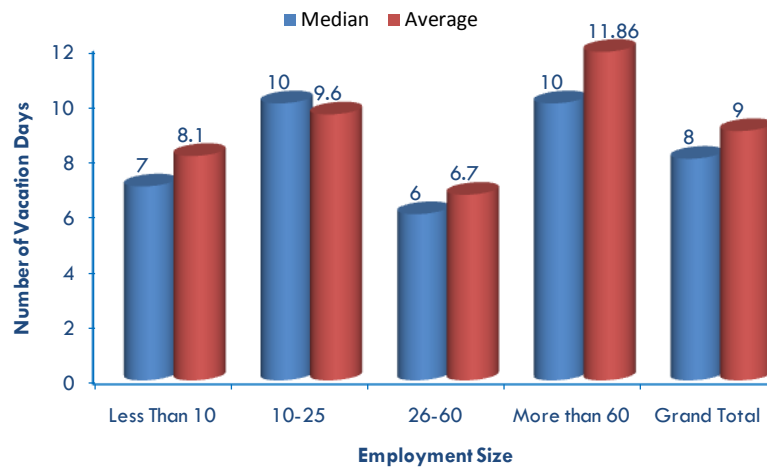
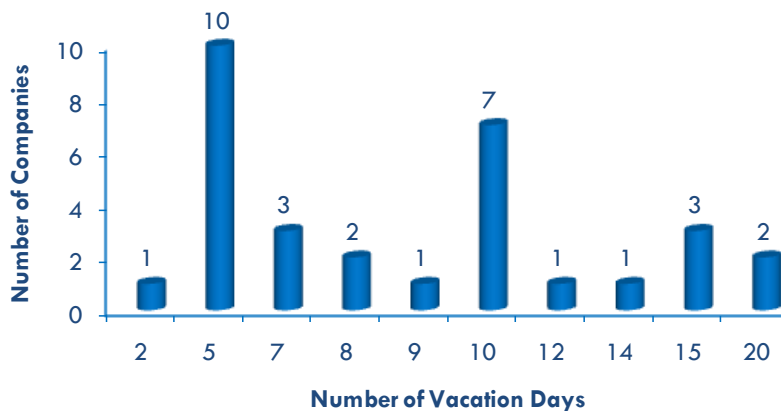


Chart 4: Wage and Benefit Survey: Number of Vacation Days



Finally, one in every three employers in the study market area offers sick leave. Since the response rate to this question is considerably low, the BERC only highlights some aggregate figures. Average days of annual sick leave offered to the manufacturing employees are 6.2. Median number of sick leave is five days.

Insurance. What kinds of medical insurance do the area manufacturing companies offer to their employees? Who pays what portion of the insurance premiums? Are dependents eligible for benefits? Table 7 below provides the percent of the area manufacturing offering health, dental, vision, disability, and life insurances to their employees and, in certain cases, employees' dependents.

Table 7: Wage and Benefit Survey: Insurance (Sample Size = 44 Manufacturing Companies)

Type of Insurance	Insurance to Employees		Who Pays?					
	Number of Responses	Percent of Companies	Employee	Percent of Companies	Employer	Percent of Companies	Cost Shared	Percent of Companies
Health	37	84.1%	4	10.8%	5	13.5%	23	62.2%
Dental	25	56.8%	5	20.0%	4	16.0%	12	48.0%
Vision	19	43.2%	6	31.6%	1	5.3%	5	26.3%
Life	29	65.9%	3	10.3%	11	37.9%	1	3.4%
Disability	24	54.5%	2	8.3%	6	25.0%	3	12.5%

Only a fraction of companies reported cost data.

The highlights from Table 7 are that more than 84 percent of the manufacturing companies offer health insurance. A little over 62 percent of companies indicated that the cost of insurance is shared between employer and employee. Dental insurance is offered by about 57 percent of the companies on primarily a shared cost basis (48 percent of companies). Vision insurance is only offered by 43 percent of the manufacturing companies and usually the employee pays for the insurance (nearly 32 percent). Life and disability insurances are offered by 66 percent and 55 percent of the companies, respectively. Unlike medical health insurances, employers usually pay for life and disability insurances (38 percent and 25 percent, respectively).

Do companies offer insurance for dependents? Table 8 presents findings from the wage and benefit survey. As shown in Table 8, nearly 62 percent of the manufacturing companies offer health insurance for dependents on primarily a shared cost basis (63 percent of the companies offering this insurance). Dental insurance for dependents is also part of the benefit plan for 52 percent of the manufacturing companies. Similar to the dependent health insurance, employee and employer split the cost of dependent dental insurance (57 percent of the companies offering

dependent dental insurance). Vision insurance for dependents is not a common practice. Only 30 percent of the companies reported the dependent vision insurance but in this case employees usually cover the cost of dependent vision insurance (54 percent of the offering companies).

Table 8: Wage and Benefit Survey: Insurance for Dependents (Sample Size = 44 Manufacturing Companies)

Type of Insurance	Insurance to Dependents		Who Pays?					
	Number of Responses	Percent of Companies	Employee	Percent of Companies	Employer	Percent of Companies	Cost Shared	Percent of Companies
Health	27	61.4%	7	25.9%	3	11.1%	17	63.0%
Dental	23	52.3%	7	30.4%	3	13.0%	13	56.5%
Vision	13	29.5%	7	53.8%	1	7.7%	5	38.5%

What is the average cost of providing medical insurance? Table 9 below provides survey responses to the insurance cost question. Overall, employees are expected to pay on average \$914 for health insurance, \$192 for dental, and \$108 for vision. Employers' share is significantly higher: \$4,205 for insuring each employee, \$500 for dental, and \$381 for vision. These costs are for insuring an employee. When dependents become part of the benefit plan, individual cost for health insurance increases to \$3,573, dental to \$628, and vision to \$265. Similarly, the cost to employers of insuring dependents increases significantly: \$9,022 for health insurance, \$1,236 for dental, and \$944 for vision. Of course, the cost of insurance to both employees and employers varies by the establishment size. Table 9 provides detailed cost figures by establishment size.

Table 9: Wage and Benefit Survey: Average Cost of Insurance (Sample = 44)

Employment Size	Insurance for Employees					
	Health Insurance		Dental Insurance		Vision Insurance	
	Employee Cost	Employer Cost	Employee Cost	Employer Cost	Employee Cost	Employer Cost
Less Than 10	\$613	\$3,426	N/A	N/A	N/A	N/A
10-25	\$1,048	\$5,738	\$198	\$769	\$109	\$302
26-60	\$1,032	\$2,714	\$204	\$245	\$58	\$99
More Than 60	\$902	\$4,941	\$182	\$454	\$142	\$741
Grand Total	\$914	\$4,205	\$192	\$500	\$108	\$381

Employment Size	Insurance for Dependents					
	Health Insurance		Dental Insurance		Vision Insurance	
	Employee Cost	Employer Cost	Employee Cost	Employer Cost	Employee Cost	Employer Cost
Less Than 10	\$160	\$2,425	N/A	N/A	N/A	N/A
10-25	\$3,327	\$6,620	\$823	\$1,811	\$296	\$821
26-60	\$4,451	\$6,263	\$560	\$667	\$163	\$289
More Than 60	\$3,211	\$14,936	\$594	\$1,150	\$319	\$1,724
Grand Total	\$3,573	\$9,022	\$628	\$1,236	\$265	\$944

Retirement and Other Benefits. Nearly 50 percent of the companies in the study market area offer defined contribution plans to their employees (Table 10). Traditional pension plan is offered by about seven percent of the companies. Profit sharing and employee stock ownership plans are offered by 16 percent and nine percent of the manufacturing companies. Overall, nearly 82 percent of the manufacturing companies offer one of the retirement/pension plans cited in Table 10.

Table 10: Wage and Benefit Survey: Types of Retirement Plans (Sample Size = 44 Companies)

Type of Plan	Number of Companies	Percent of Companies
Traditional Pension Plan	3	6.82%
Defined Contribution (401K, 403K, IRA, etc.)	22	50.00%
Profit Sharing	7	15.91%
Employee Stock Ownership Plan	4	9.09%

There are some other benefits the manufacturing companies offer their employees. Some of these benefits include career development, tuition payment, and other benefits and incentives. Table 11 provides number and percent of companies offering these benefits. Overall, a little over 18

percent of the manufacturing companies offer career development opportunities, 34 percent tuition payment, and 39 percent other incentives and bonuses.

Table 11: Wage and Benefit Survey: Types of Incentives and Bonuses (Sample Size = 44 Companies)

Type of Bonus and Incentive	Number of Companies	Percent of Companies
Career Development	8	18.18%
Tuition Payment	15	34.09%
Incentives and Bonuses*	17	38.64%

*These incentives and bonuses include safety, longevity, holiday, and large shipment bonuses (23 percent of companies reported), attendance and performance bonuses (7 percent), pay increase for certification, and gainshare (a few companies).

III.C. Value of Benefits

Total compensation for an employee consists of wages and benefits. The BERC asked employers to report average value of employee benefits as percent of wages and salaries. A total of 22 companies (50 percent of the sample size) reported their employee benefits as percentage of wages and salaries. Average benefits as percent of employee wages and salaries are 18.2 percent. The BERC will use this average figure to estimate the total employee compensation throughout the rest of this analysis. The following formula for each occupation will be used:

$$\text{Total Compensation} = \text{Average Wage} + (\text{Average Wage} \times 0.182)$$

III.D. Wages by Occupation

This section provides wage data for manufacturing companies and selected occupations surveyed in the study market area. The wage data will be presented in two general formats: (1) average wage by establishment size and cumulative wage distribution, and (2) average wage by selected occupation. In presenting wage data, the BERC will use both weighted (by jobs) and unweighted (by establishment). However, in the next section where we profile 24 occupations, the BERC will use establishment level (unweighted) wage data.

As previously stated, the BERC, in consultation with the local economic development officials, originally identified 50 manufacturing occupations for the wage and benefit survey. The

manufacturing companies (44 of them) responding to the wage and benefit survey provided data for 43 occupations listed in the survey. The BERC further excluded seven more occupations from the list because of less than two responses. Wage by occupation section then includes 36 occupations with the basic wage data. The wage and benefit templates for occupations included in this study cover even less occupations as the BERC included only occupations with four or more responses.

Wages by Establishment Size. Throughout this section, the BERC uses establishment size and company size interchangeably. How do wages vary by establishment size? Table 12 presents aggregate wage data by both hourly and annualized wage. The number of covered jobs is 2,249, representing 21 percent of the manufacturing jobs in the study market area. Unweighted wage data is the establishment data, whereas weighted ones are employment adjusted wage data. Overall, the manufacturing companies pay an average hourly wage of \$18.30 in the study market area. Median establishment wage is \$16. Annualized average and median establishment wages are \$38,073 and \$33,280, respectively. As Table 12 illustrates, there are significant variations in wage by employment size.

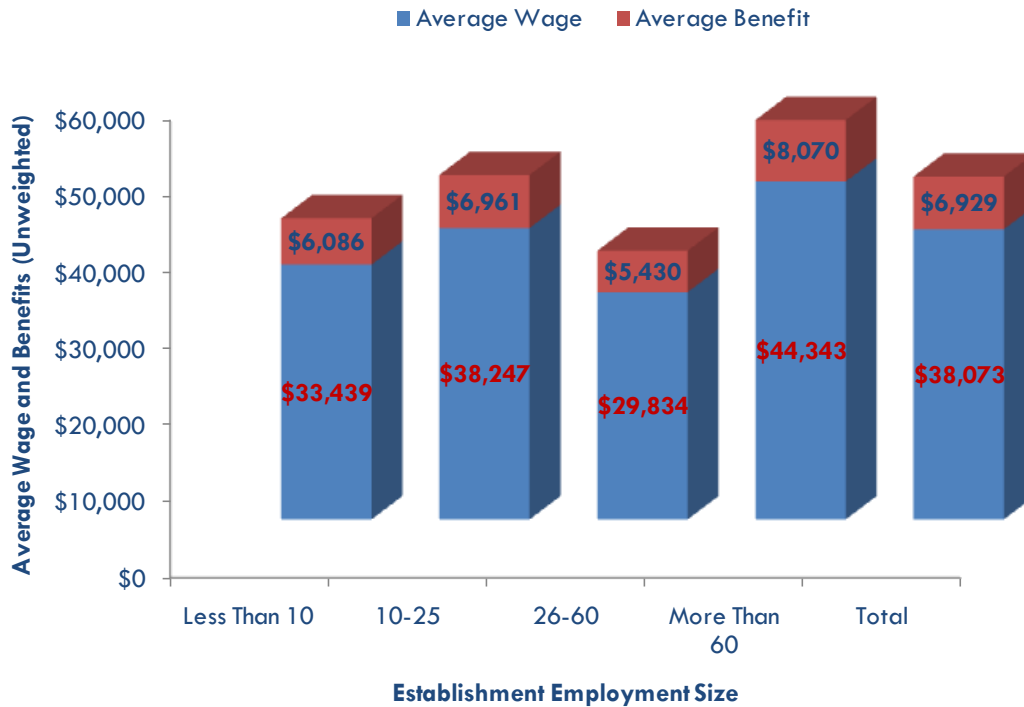
Table 12: Wage and Benefit Survey: Average Wages by Employment Size

Employment Size	Unweighted Hourly Wages		Weighted Hourly Wages		Number of Jobs
	Average (Mean)	Median	Average (Mean)	Median	
Less Than 10	\$16.08	\$13.00	\$15.85	\$13.00	66
10-25	\$18.39	\$15.00	\$15.87	\$14.00	134
26-60	\$14.34	\$12.00	\$12.94	\$12.00	313
More Than 60	\$21.32	\$18.10	\$15.71	\$15.50	1,736
Total	\$18.30	\$16.00	\$15.37	\$14.00	2,249

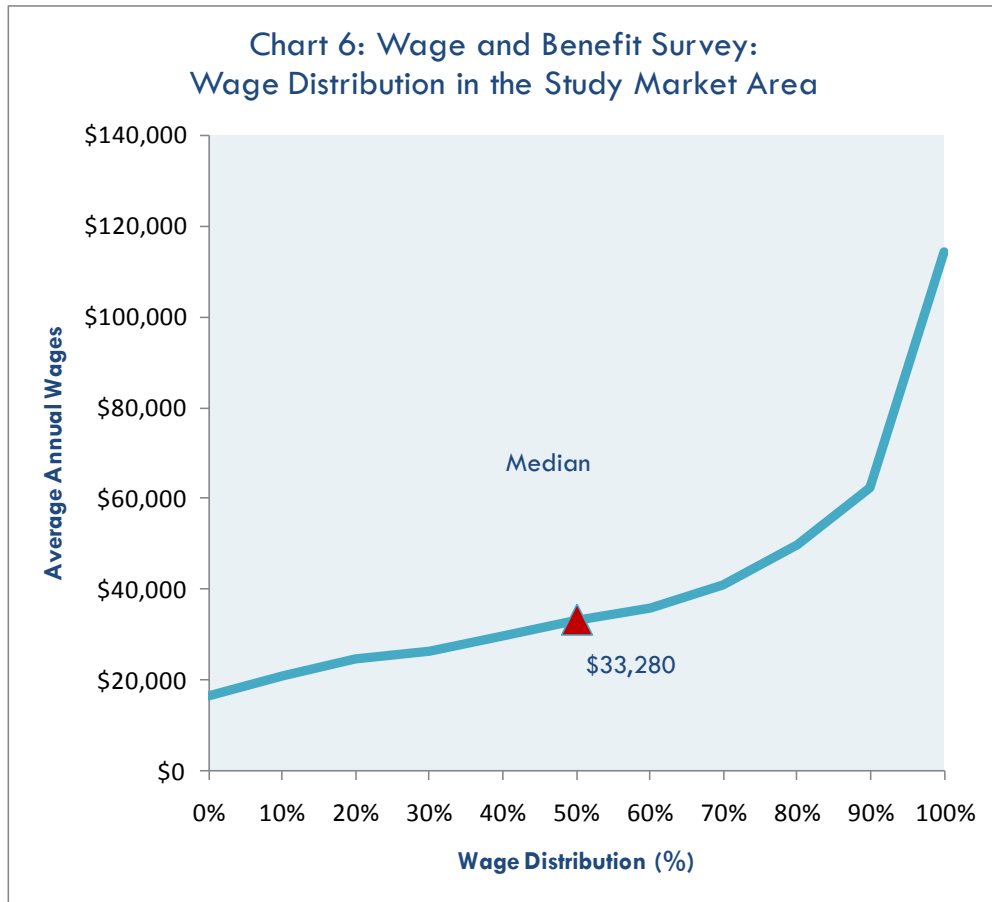
Employment Size	Unweighted Annual Wages		Weighted Annual Wages	
	Average (Mean)	Median	Average (Mean)	Median
Less Than 10	\$33,439	\$27,040	\$32,968	\$27,040
10-25	\$38,247	\$31,200	\$33,009	\$29,120
26-60	\$29,834	\$24,960	\$26,912	\$24,960
More Than 60	\$44,343	\$37,648	\$32,681	\$32,240
Total	\$38,073	\$33,280	\$31,976	\$29,120

Chart 5 presents average compensation (wages + benefits) by establishment size. Although average compensation varies by establishment size, overall compensation in the study market area is \$45,002 (\$38,073 + \$6,929). The total compensation figures in Chart 5 represents unweighted establishment wages and benefits.

**Chart 5: Wage and Benefit Survey:
Total Compensation by Employment Size**



Finally, Chart 6 below plots wage distribution in the study market area. Overall distribution of wages suggests that the wage distribution is highly skewed at the ninth and tenth deciles of the wage distribution. Median wage in the distribution is marked on the chart, and this chart will be used in the occupational templates.



Wage by Occupations. Where data is available, this section presents occupational information by trainee level wage, entry wage, average wage, number of jobs, educational requirement, difficulty of filling the vacant position, and licensing requirement. Table 13 tabulates the covered occupations by employment, educational and licensing requirements, difficulty of filling vacant positions, and current openings. Tables 14 and 15 present occupational level wage data.

Table 13: Wage and Benefit Survey: Characteristics of the Covered Occupations

SOC Code and Title	Number of Companies	Number of Jobs	Current Job Openings	Educational Requirement	Licensing	Difficulty of Filling (1=Easy; 10=Difficult)
11-1021 General & operations managers	18	37	0	College	No	7
11-3051 Industrial production managers	10	38	1	Vocational	No	7
11-9041 Engineering managers	3	4	0	College	No	7
13-1023 Purchasing agents	4	9	0	Vocational	No	5
13-2011 Accountants & auditors	5	5	1	College	No	8
17-2112 Industrial engineers	3	4	0	Master's	Yes	6
17-2141 Mechanical engineers	2	5	0	College	Yes	8
41-4012 Sales representatives, wholesale & manufacturing	10	26	1	High School	No	6
43-3031 Bookkeeping, accounting, & auditing clerks	21	33	1	Vocational	No	5
43-5061 Production, planning, & expediting clerks	7	23	0	Vocational	No	6
43-5071 Shipping, receiving, & traffic clerks	15	48	1	High School	No	3
43-5081 Stock clerks & order fillers	4	46	1	High School	No	5
49-1011 First-line supervisors/managers of mechanics	8	51	4	Vocational	No	6
49-9041 Industrial machinery mechanics	8	48	2	Vocational	Yes	7
51-1011 First-line supervisors/managers of production	15	106	2	Vocational	Yes	7
51-2022 Electrical & electronic equipment assemblers	5	24	0	Less Than High	No	5
51-2092 Team assemblers	5	692	18	High School	No	3
51-4011 Computer-controlled machine tool operators	2	45	0	High School	No	5
51-4021 Extruding & drawing machine setters, operators	3	53	0	High School	No	5
51-4031 Cutting, punching, & press machine setters	6	59	2	High School	No	6
51-4033 Grinding, lapping, polishing, & buffing	2	45	0	High School	No	5
51-4041 Machinists	6	22	0	Vocational	No	7
51-4072 Molding, coremaking, & casting machine setters	2	4	1	High School	No	6
51-4081 Multiple machine tool setters, operators	4	43	0	Associate	No	8
51-4111 Tool & die makers	8	53	1	Vocational	Yes	8
51-4121 Welders, cutters, solderers, & brazers	6	101	1	High School	No	4
51-4122 Welding, soldering, & brazing machine setters	2	22	0	High School	No	8
51-9023 Mixing & blending machine setters	2	6	0	High School	No	2
51-9041 Extruding, forming, pressing, & compacting	7	58	0	Less Than High	No	6
51-9061 Inspectors, testers, sorters, samplers, & weighers	9	85	1	Vocational	No	6
51-9111 Packaging & filling machine operators & tenders	2	14	0	High School	No	5
51-9121 Coating, painting, & spraying machine setters	4	22	0	High School	No	6
53-3032 Truck drivers, heavy & tractor-trailer	5	13	0	Less Than High	Yes	5
53-7051 Industrial truck & tractor operators	4	266	0	Less Than High	Yes	7
53-7062 Laborers & freight, stock, & material movers	7	33	0	Less Than High	Yes	4
53-7064 Packers & packagers, hand	2	62	0	High School	No	4

OCCUPATIONAL WAGE DATA IS INTENTIONALLY REMOVED.

FOR MORE INFORMATION, PLEASE VISIT

WWW.CONSIDERTENNESSEE.COM.

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IV. Detailed Occupational Profiles

This section includes templates for 24 manufacturing occupations. Data reported in each of these templates have already been reported in the previous sections. What is new in these templates is that company characteristics provided in the template are for companies reporting that job. These templates are labeled as Templates 1-24. Each template may be used as a standalone document for information purpose.

OCCUPATIONAL WAGE TEMPLATES ARE INTENTIONALLY REMOVED.

FOR MORE INFORMATION, PLEASE VISIT

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V. Appendix: Survey Questionnaire

Business and Economic Research Center
 Jennings A. Jones College of Business
 MTSU P.O. Box 109
 Murfreesboro, Tennessee 37132
 (615) 898-2610 • Fax: (615) 898-5045
www.mtsu.edu/~berc



[Date]

[Name of Executive]
 [Title]
 [BusinessName]
 [Address]

Dear [Name of Executive]:

We've been asked to conduct a wage and benefit survey for the selected manufacturing occupations in Coffee, Franklin and Lincoln counties. This project is sponsored by the South Central Tennessee Development District and industrial development boards of Coffee, Franklin and Lincoln counties. Your company has been selected to participate.

As an executive, your participation in this survey is critical for the success of the project because your input will help us to determine the wages and benefits offered by the manufacturing companies in the region; to analyze occupational and regional wages and benefits; to highlight the level of difficulty in filling vacant positions by occupations; and to understand wage distribution by occupation in the manufacturing sector.

Survey Participation: The information we collect from the manufacturing companies will be combined, analyzed, and reported to South Central Tennessee Development District, industrial development boards of Coffee, Franklin and Lincoln counties, and the public. We would like to assure you that survey responses are **extremely confidential**. Individual responses will not be released; that your responses will be statistically combined with the responses from other business in the study area; and that we will not release information that reveals the identity of your company. Your participation is voluntary. If you choose to participate, you may choose not to answer any particular question. There is no risk to you or to your company from participating in the study.

Survey Process and Procedure: The wage and benefit survey will be available online on February 14th, 2011 at www.mtsu.edu/berc/WB11Survey. Please use your business ID NUMBER (given below) to log in and fill out the survey. The survey should not take more than 90 minutes of your time. The wage and benefit survey will officially close on April 15, 2011.

If you have any questions about the study or the questionnaire, you may contact me at (615) 898-5424. Your business ID NUMBER is [ID NUMBER] for accessing and filling out the survey.

Thanks for your help in making this study a success.

Sincerely,

A handwritten signature in black ink, appearing to read "Murat Arik".

Murat Arik, Ph.D.
 Associate Director
 Business and Economic Research Center
 Middle Tennessee State University



A Tennessee Board of Regents University
 MTSU is an equal opportunity, non-racially identifiable, educational institution that does not discriminate against individuals with disabilities.

Please enter your business ID NUMBER (5-digit code):

I. General Demographics (This section deals with general company information that helps us classify the occupational data)

1. Number of employees:
2. Percent of part-time employees:
3. Average annual sales:
4. Is your workforce represented by a union? Yes or No

II. Benefits (Time Off)

5. Paid holidays (1-15) (please pick one)
6. Unpaid holidays (1-10) (please pick one)
7. Number of annual vacations after 1 year (1-20) (please pick one)
8. Number of annual sick leaves after 1 year (1-20) (please pick one)
9. Other benefits (please check all that apply)
 - 9a Paid jury duty
 - 9b Personal paid time-off
 - 9c Time-off to vote

III. Insurance Benefits

10. For each of the following insurances, please indicate availability and degree of coverage for employee and dependents

	Employee			Dependent		
10a Health	(no) or (employee share)	(employer share)	(shared cost)	(no) or (employee share)	(employer share)	(shared cost)
10b Dental	(no) or (employee share)	(employer share)	(shared cost)	(no) or (employee share)	(employer share)	(shared cost)
10c Vision	(no) or (employee share)	(employer share)	(shared cost)	(no) or (employee share)	(employer share)	(shared cost)
10d Life	(no) or (employee share)	(employer share)	(shared cost)			
10e Disability	(no) or (employee share)	(employer share)	(shared cost)			

IV. Retirement and Other Benefits

11. Do you have employee pension plans?
 - 11a Traditional pension plan (none) (yes) (percent of match-employee contribution)
 - 11b 401K or 403K (none) (yes) (percent of match-employee contribution)
 - 11c Profit-sharing (no) (yes)
 - 11d Employee stock ownership plans (no) (yes)
 - 11e Other (please specify)
12. Does your company offer any of the following benefits?
 - 12a Career development
 - 12b Tuition payment
 - 12c Child care assistance
13. Does your company offer incentives or bonuses? (no) (yes) (type-please specify)
14. Please estimate average value of benefits package per employee
15. On average, what is the value of per employee benefit package as percent of annual wages? (pick one)

Selected Production and Transportation Occupations									
51-1011	First-line supervisors/managers of production and operating workers								
51-2011	Aircraft structure, surfaces, rigging, and systems assemblers								
51-2022	Electrical and electronic equipment assemblers								
51-2031	Engine and other machine assemblers								
51-2041	Structural metal fabricators and fitters								
51-2092	Team assemblers								
51-3011	Bakers								
51-3022	Meat, poultry, and fish cutters and trimmers								
51-3023	Slaughterers and meat packers								
51-3092	Food batchmakers								
51-4011	Computer-controlled machine tool operators, metal and plastic								
51-4021	Extruding and drawing machine setters, operators, and tenders, metal and plastic								
51-4031	Cutting, punching, and press machine setters, operators, and tenders, metal and plastic								
51-4033	Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders								
51-4034	Lathe and turning machine tool setters, operators, and tenders, metal and plastic								
51-4041	Machinists								
51-4072	Molding, coremaking, and casting machine setters, operators, and tenders								
51-4081	Multiple machine tool setters, operators, and tenders, metal and plastic								
51-4111	Tool and die makers								
51-4121	Welders, cutters, solderers, and brazers								
51-4122	Welding, soldering, and brazing machine setters, operators, and tenders								
51-8091	Chemical plant and system operators								
51-9011	Chemical equipment operators and tenders								
51-9023	Mixing and blending machine setters, operators, and tenders								
51-9041	Extruding, forming, pressing, and compacting machine setters, operators, and tenders								
51-9061	Inspectors, testers, sorters, samplers, and weighers								
51-9111	Packaging and filling machine operators and tenders								
51-9121	Coating, painting, and spraying machine setters, operators, and tenders								
53-3032	Truck drivers, heavy and tractor-trailer								
53-7051	Industrial truck and tractor operators								
53-7062	Laborers and freight, stock, and material movers, hand								
53-7064	Packers and packagers, hand								
Other	Please Specify:								
Other	Please Specify:								