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January 9, 2001

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Introduction

In 1999, Pharmacia employed nearly 6,000 persons in Kalamazoo County, making it the largest employer, by far, in the county. The pharmaceutical company accounted for nearly 5 percent of the county's total estimated workforce of 121,890.¹ As show in Table 1, Pharmacia employs 2,500 more workers than the county's second largest employer, Western Michigan University. Moreover, the company's payroll in the county reached up to \$325.6 million in 1999 and accounted for 5.2 of the county's estimated personal income.

**Table 1
Five Largest Employers in Kalamazoo County**

Employer	Employees
Pharmacia	5,995
Western Michigan University	3,348
National City	2,800
Bronson Healthcare	2,561
Borgess Healthcare	2,503

Source: Southwest Michigan First

Total Economic Impact of Pharmacia on Kalamazoo County

The total economic impact of Pharmacia on Kalamazoo County is much greater than simply the size of its labor force and payroll, however. The company's full economic impact on the county includes, in addition to its direct employment and payroll levels, the employment and payroll generated by

- The company's suppliers that are located within the county's boundaries.
- The county's retailers and consumer services providers which depend on the expenditures of Pharmacia's employees.

¹W.E. Upjohn Institute's county employment estimate as of the second quarter of 1999.

- The companies that supply and provide services to Pharmacia's county suppliers and the impacted retailers and consumer services providers located in the county.
- The county governmental units which depend upon the total level of economic activity generated by the company within the county.

As shown in Table 2, we estimate that Pharmacia supported 9,642 workers in the county in 1999, in addition to its own workforce of 5,995. A total of 15,637 individuals, directly or indirectly, depended upon Pharmacia for their economic livelihood in 1999. In percentage terms the company supported, directly or indirectly, 12.5 percent of the county's total workforce.

In regional studies an employment multiplier is often used as an indicator of a firm's impact on its surrounding community. The multiplier is calculated by dividing the firm's total impact by its direct impact. In this instance, Pharmacia's employment multiplier is 2.6, which means that every employee at Pharmacia generated, on average, 1.6 additional jobs in Kalamazoo County in 1999.

In terms of household income, Pharmacia's direct payroll of \$325.6 million generated an additional \$427.4 million in wages, salaries, and proprietor's income in Kalamazoo County in 1999. In all, \$753.0 million in wages, salaries, and proprietor's income was generated in Kalamazoo County solely to the presence of Pharmacia. The company generated an income multiplier of 2.31 meaning that every dollar in wages and salaries paid at the company created another \$1.31 in wages and salaries in the county during 1999.

Table 2 also provides an industrial breakdown of Pharmacia's employment and wage and salary impact on Kalamazoo County in 1999.

Table 2
Total Economic Impact of Pharmacia on Kalamazoo County
1999

	Employment	Wages, Salaries and Proprietor's income (\$million)
Pharmacia	5,995	\$325.6
Total Indirect	9,642	\$427.4
Manufacturing	192	\$121.6
Construction	1,272	\$53.8
Finance, Insurance & Real Estate	700	\$25.1
Retail	2,567	\$41.3
Services	3,915	\$131.0
Other	752	\$33.0
Government	244	\$21.6
Total Impact	15,637	\$753.0

Finally, the total economic impact of Pharmacia may best be represented by its contribution to the county's Gross Regional Product (GRP), which is a measure of the value of all goods and services generated in the county. In 1999, we estimate that Pharmacia contributed \$1.54 billion to the county's GRP.

Methodology

The W.E. Upjohn Institute maintains a computer model especially designed to estimate the full economic impact of changes in business activity within the county. The model was built for the Institute by Regional Economic Models, Incorporated (REMI) of Amherst, Mass. The model has three interconnected components:

- An input-output model that estimates the industrial linkages among the county's businesses and measures the impact of consumer expenditures on the county's retailers and consumer services providers.
- A relative cost model that estimates the impact on the county's wages and prices of employment changes in the county.
- A forecasting model.

The impact of Pharmacia is measured by difference between two separate forecasts for the county. The first forecast is a status quo forecast which assumes that Pharmacia maintained its 1999 level of operations in the county, while the alternative forecast estimates the level of economic activity that would occur in the county in 1999 without the presence of Pharmacia.

Comparison Analysis with Pharmacia's Estimated 1995 Economic Impact

In March 1996, the W.E. Upjohn Institute estimated Pharmacia's 1995 economic impact on Kalamazoo County. At that time, the pharmaceutical company employed 6,755 workers, which was 12.7 percent larger than its 1999 workforce. In total, the company supported, directly and indirectly, an estimated 18,140 workers in the county in 1995. The company's estimated employment multiplier was 2.7 in 1995, which is very similar to its 1999 employment multiplier of 2.6. Moreover, in 1995, we estimated that Pharmacia contributed \$1.53 billion (current 1999 dollars) to the county's Gross Regional Product, which is, again, very similar to its 1999 impact of \$1.54 billion.