

# THE ECONOMIC IMPACT OF THE ARIZONA STATE UNIVERSITY RESEARCH PARK, 2016

**A Report from the Office of the University Economist**

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## SUMMARY

This report provides estimates of the impact of the operations of tenants at the Arizona State University (ASU) Research Park on employment and income in the state of Arizona. The estimates are based on tenant employment numbers for 2016. The impacts include the jobs and earnings of employees of the Park's tenants, as well as the jobs and incomes supported by tenant purchases of goods and services from local suppliers. The estimated impacts also include multiplier effects that arise when a company's first-tier suppliers place upstream demands on other producers, when workers directly or indirectly associated with company operations spend a portion of their incomes in the local economy, and when state and local governments spend new tax revenues.

In total, the operations of ASU Research Park tenants generate 16,160 jobs for Arizona residents, provide labor income of \$865 million for Arizona workers, and account for \$1,418 million of the total income generated in the state. Labor income is the full compensation paid to workers — wages, salaries, and fringe benefits. Total income is the sum of labor income and capital income, including company earnings. For companies that are publically held, much of the capital income generated by operations in Arizona may accrue to residents of other states or nations.

Table 1 provides details on the estimated impacts. *Direct impacts* refer to the employees of ASU Research Park tenants, the salaries and other forms of compensation these employees receive, and all of the income (both labor and capital income) that is directly generated by tenant operations. The operations of companies at the ASU Research Park are directly responsible for 6,100 Arizona jobs, \$361 million in labor income and \$583 million in total Arizona income. The average compensation of tenant employees is estimated to be \$59,100. This is higher than the average of \$50,700 per worker for all jobs in the state.

The *indirect impacts* of operations at the Park refer to the jobs and incomes supported when tenant companies purchase goods and services from local suppliers. Also included are estimates of upstream effects that occur when a tenant's immediate suppliers themselves purchase goods and services from other Arizona businesses. The indirect impacts of operations at the Park are estimated to be 2,350 jobs, \$124 million in labor income, and \$211 million in total income.

Economic impact analysis also accounts for the additional jobs and incomes that are generated when a portion of the labor income received by tenant's employees and the employees of its

**TABLE 1**  
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**2016**

	<b>Total Income (millions)</b>	<b>Labor Income (millions)</b>	<b>Employment</b>
Direct Impacts	\$582.6	\$360.5	6,100
Indirect Impacts	211.3	124.1	2,350
Induced Impacts	624.4	379.9	7,710
Total Impacts	1,418.2	864.5	16,160

Source: Center for Competitiveness and Prosperity Research, L. William Seidman Research Institute, W. P. Carey School of Business, Arizona State University.

immediate and indirect suppliers is spent within the local economy, and when new tax revenues received by state and local governments are spent for the provision of government services. These are referred to as *induced impacts*. The induced impacts of companies operating at the ASU Research Park are estimated to be 7,710 jobs, \$380 million in labor income, and \$624 million in total income.

### **METHODOLOGY**

Estimates of the economic impact of business operations at the ASU Research Park were made using the data files and input-output relationships contained in IMPLAN, an economic impact software used widely by researchers throughout the United States. Each tenant company was matched to one of 432 detailed IMPLAN sectors (or in some cases a combination of sectors) based on descriptions of the company's activities. Tenant employment numbers provided by property management were used to scale the size of the company's activity.

The model used was an Arizona-specific version of IMPLAN. Reported impacts refer to jobs and incomes realized somewhere in the state. These impacts are largely realized in Maricopa County. Multipliers selected for the analysis were full SAM (social accounting matrix) multipliers, with the recycling of income by federal government spending excluded. IMPLAN data files contain information on average rates of employee compensation and capital income per worker for each IMPLAN sector. The software also contains information on the amount and commodity composition of supplier purchases made by typical companies within each IMPLAN sector. The percent of supplier purchases assumed to be from Arizona firms was based on IMPLAN's econometric estimates of interstate trade flows.

### **GLOSSARY OF TERMS**

*Employment*: A count of full- and part-time jobs. It includes both wage and salary workers and the self-employed.

*Labor income*: Employee compensation (wages, salaries and benefits) plus proprietors' income (income of the self-employed).

*Total income*: Labor income plus capital income, including company earnings. For a state, total income is synonymous with gross product.

*Direct economic impact*: A company's own employees, their compensation, and all of the income or value-added directly generated by the company's operations.

*Indirect economic impact*: The jobs and incomes generated when a company purchases goods and services produced by other local area businesses. These include both the impacts felt by first-tier suppliers and the impacts associated with upstream purchases from other local businesses.

*Induced economic impact*: The jobs and incomes generated when workers either directly or indirectly connected with company operations spend a portion of their labor income in the local economy. Induced impacts may also include the effects of spending by state and local governments out of new tax revenues.