



The Economic Contribution of the Sprout Food Hub

A REPORT OF THE ECONOMIC IMPACT ANALYSIS PROGRAM PRESENTED IN PARTNERSHIP WITH THE EDA CENTER AT THE UNIVERSITY OF MINNESOTA CROOKSTON

Authored by Brigid Tuck
With contributions from Merritt Bussiere



PROGRAM PARTNERS: SPROUT FOOD HUB AND REGION FIVE DEVELOPMENT COMMISSION
PHOTO CREDIT: SPROUT FOOD HUB

The Economic Contribution of the Sprout Food Hub

A REPORT OF THE ECONOMIC IMPACT ANALYSIS PROGRAM PRESENTED IN PARTNERSHIP WITH THE EDA CENTER AT THE UNIVERSITY OF MINNESOTA CROOKSTON

October 2016

Authored by Brigid Tuck, Senior Economic Impact Analyst
With contributions from Merritt Bussiere, Extension Educator

Editor: Elyse Paxton, Senior Editor, Extension Center for Community Vitality

Report Reviewers:

William Lazarus, Professor, Department of Applied Economics, University of Minnesota
Ryan Pesch, Extension Educator, Center for Community Vitality, University of Minnesota

Partners:

Sprout
EDA Center at University of Minnesota Crookston
Region Five Development Commission

Table of Contents

- 1. EXECUTIVE SUMMARY** **3**
- 2. INTRODUCTION** **4**
- 3. ECONOMIC CONTRIBUTION, 2015** **5**
 - Direct Effect 5
 - Indirect and Induced Effects 6
 - Total Economic Contribution 6
 - Top Industries Impacted 7
 - Comparison to Wholesale Sourcing 8
- 4. POTENTIAL ECONOMIC CONTRIBUTION, 2017** **9**
 - Direct Effect 9
 - Total Economic Contribution 10
 - Top Industries Impacted 11
- 5. APPENDIX: METHODS AND DEFINITION OF TERMS** **11**



EXECUTIVE SUMMARY: ECONOMIC CONTRIBUTION OF THE SPROUT FOOD HUB

Sprout is a regional food hub based in Little Falls, Minnesota. Its mission is “to promote the health, economy, and self-reliance of Central Minnesota by facilitating the availability of fresh, locally produced food in the region.” In spring 2016, Sprout hosted the grand opening of the Sprout Growers and Makers Marketplace. The Sprout facility now features space for market vendors, a demonstration kitchen, a processing kitchen, commercial coolers and freezers, storage spaces, and the food hub’s office. Sprout is interested in understanding its contributions to the local economy, specifically Cass, Crow Wing, Morrison, Todd, and Wadena counties. Extension, in partnership with the federally-funded EDA Center at the University of Minnesota Crookston, analyzed the economic contribution of Sprout in 2015 and its potential contribution for 2017.

Economic Contribution 2015:

Direct impact: The 2015 direct impact of the Sprout food hub is the expenditures made by Sprout to operate. In 2015, Sprout spent \$106,689. Of this, \$40,928 was spent on local foods for resale and \$34,375 constituted employee compensation. Sprout employed three people and made purchases from 61 growers.

Indirect and induced impacts: When Sprout makes purchases from local growers and businesses, it creates ripple effects in the economy. These ripple effects are generated by the businesses and enterprises that supply Sprout and its employees.

Total contribution: In 2015, Sprout contributed an estimated \$220,989 to the regional economy. This included \$70,252 of labor income generated. Sprout generated employment for four people across all industries in the region.

Top industries impacted: Sprout supported an estimated \$114,300 of sales at other businesses in the five counties. Sprout’s local expenditures influence real estate (both owner-occupied and rental) and health care.

Comparison to wholesale purchases: In 2015, Sprout earned \$61,700 from local food sales. If local institutions and other buyers spent \$61,700 on purchases from wholesalers instead of Sprout, the total economic contribution would be an estimated \$67,100. This includes 0.2 jobs and \$17,025 in labor income. This compares to the \$221,000 generated by Sprout.

Potential Economic Contribution 2017:

Direct impact: Sprout estimates it will spend \$209,608 in 2017 to operate the food hub and marketplace. It intends to employ three people and pay \$103,943 in employee compensation. Sprout also plans to make purchases from more than 75 growers in 2017.

Total contribution: If Sprout’s 2017 projections are achieved, Sprout will contribute an estimated \$593,500 to the regional economy. Included in the \$593,500 of economic contribution is \$206,600 in labor income. Sprout would also generate five jobs across all industries in the economy.



INTRODUCTION

Sprout is a regional food hub based in Little Falls, Minnesota. Its mission is “to promote the health, economy, and self-reliance of Central Minnesota by facilitating the availability of fresh, locally produced food in the region.”

Food hubs, in general, exist to address a market shortcoming. While institutions, particularly schools, are interested in featuring fresh, locally grown foods in their meals, local growers often have trouble filling demand. Those troubles stem from a variety of sources, including a lack of product from one grower to fill demand, a seasonal mismatch between peak demand by institutions for local foods and peak supply of local foods, the lack of ability of institutions to perform basic processing of fresh foods, and a hesitancy of institutions to work with multiple growers.¹

Food hubs have sprung up across the nation to help address these barriers. Local growers can pool (and often store) their product for sale to institutions, thus eliminating several barriers to success. Some food hubs also install commercial kitchens, allowing growers to perform basic processing functions, such as cleaning, peeling, and chopping, which eliminates another barrier and adds value to local commodities. This can potentially create additional income, profits, and jobs.

Central Minnesota has a history of local growers and school districts willing to collaborate to bring local foods to schools. Arlene Jones, with Farm on St. Mathias, was an early pioneer of local food efforts. Through her farm, Arlene marketed fresh foods to the Brainerd area school district. Realizing her farm could not meet the full demand of the schools, however, Arlene began coordinating with other local growers. From these grassroots efforts, the Sprout food hub was born.

Sprout’s early efforts have been successful, aggregating and delivering more than 100,000 pounds of locally grown commodities from growers within a 60 mile radius of Brainerd during the 2014 season. In addition to collecting and marketing locally grown foods, Sprout also provides training and technical assistance to local growers and is addressing the barriers of working with institutions (one organization to contract with versus multiple growers) and of supply (pooling multiple growers together to fill institutional demand).

This past spring, Sprout hosted the grand opening of the Sprout Growers and Makers Marketplace. The marketplace addresses the additional barriers of storage and processing. Sprout now features space for market vendors and access to a demonstration kitchen, a processing kitchen, commercial coolers and freezers, storage spaces, and administrative offices.

Sprout’s ultimate vision is: “Working with regional partners, SPROUT MN will fill a niche, not only in local foods, but in building the hub into a destination marketplace where artisans, regional chefs, growers, producers, and the public come together in an infusion of art and food, retail sales and community building. Utilizing the premises of creative placemaking, SPROUT MN will utilize a guiding philosophy to engage and continue to build resilient communities through education, building practical skills, imagining, adapting, and creating beyond local foods.”

Sprout is interested in understanding its contributions to the local economy, which includes Cass, Crow Wing, Morrison, Todd, and Wadena counties. These counties also constitute the Region 5 Development Commission service area.

¹ Tuck, B., Haynes, M., King, R., and Pesch, R. (2010). *The economic impact of farm-to-school lunch programs: A Central Minnesota example*. St. Paul, Minnesota: University of Minnesota Extension, Center for Community Vitality. Retrieved from <http://www.extension.umn.edu/community/economic-impact-analysis/reports/docs/2010-EIA-Farm-School-Programs.pdf>.

Sprout approached the EDA Center at the University of Minnesota-Crookston for assistance in measuring its economic contribution. The EDA Center is a federally-funded University Center receiving dollars from the U.S. Economic Development Administration, a bureau of the U.S. Department of Commerce. The goal of University Centers is to make the resources of universities available to the economic development community.

Extension, in partnership with the EDA Center, analyzed the economic contribution of Sprout and prepared this report. The Economic Impact Analysis team performed the analysis and is available to present the results.

Traditionally, economic contribution studies look backward, examining the impact of a business or operation in the year previous to the study. Since Sprout recently expanded, this report will examine both its retrospective (2015) and potential (2017) impacts.

ECONOMIC CONTRIBUTION, 2015

Economic contribution is comprised of direct, indirect, and induced effects. This section of the report details how the direct, indirect, and induced effects were measured for the Sprout food hub in 2015. Effects can be measured in terms of output (sales), employment, and labor income. (Please see the appendix for a full explanation of the measurements).

Direct Effect

The direct effect of the Sprout food hub in 2015 was driven by expenditures for day-to-day operations. Sprout made local expenditures for goods and services in order to operate the food hub. Sprout also made expenditures to its employees. These local expenditures and payments for labor create its direct effect.

In order to quantify the direct effect of the food hub, Sprout provided University of Minnesota Extension with 2015 data about operating expenditures, including total salaries, wages, and benefits paid.

In 2015, Sprout spent \$106,689 to operate (Table 1). Expenditures can generally be categorized into three areas: cost of goods sold (the cost to the food hub to purchase the locally grown food), inputs (e.g., electricity, rent, and advertising), and labor.

Table 1: Direct Effect, Sprout, 2015

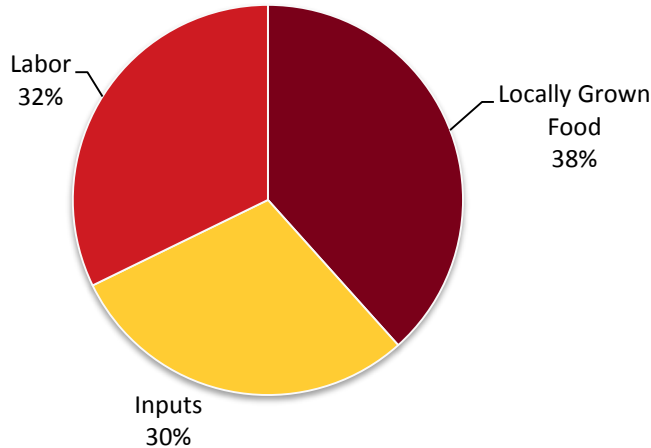
Type of Effect	Output (Sales)	Employees	Labor Income Paid	Farmers Contributing to Food Hub
Value	\$106,689	3	\$34,375	61

Data provided to Extension by Sprout

In 2015, Sprout spent \$34,375 in employee compensation for its three employees. It is important to note that a portion of the general manager's time and effort was covered by a Bush Foundation Fellowship and is not included in the labor income costs presented here.

Sprout's major expenditure was for locally grown food, accounting for nearly 40 percent of total spending (Chart 1). Other inputs accounted for 30 percent of costs. Labor costs, in 2015, were 32 percent.

Chart 1: Expenditures by Category, Sprout, 2015



Indirect and Induced Effects

Sprout's direct effects were entered into an input-output model. Input-output models trace the flow of dollars throughout a local economy and can capture the indirect and induced, or ripple, effects of an economic activity. The input-output software IMPLAN, version 3.0 with Type SAM multipliers, was used in this analysis.

Indirect effects are those associated with a change in economic activity due to spending for goods and services directly tied to the industry. In this case, these are the changes in the local economy occurring because Sprout purchased goods (for example, local foods and electricity) and related services (i.e., accounting and insurance) in the established five-county area. As the food hub made purchases, this created an increase in purchases across the supply chain. These changes across the economy are indirect effects.

Induced effects are those associated with a change in economic activity due to spending by the employees of businesses (labor) and by households. Primarily, in this study, these are economic changes related to spending by Sprout employees. It also includes household spending related to indirect effects. As employees of the food hub made purchases locally, this triggered increases in purchases on the supply chain.

Sprout's indirect and induced effects are shown below, along with a discussion of the total impact.

Total Economic Contribution

In 2015, Sprout contributed an estimated \$221,000 to the economy of Crow Wing, Cass, Morrison, Todd, and Wadena counties (Table 2). In addition to the \$106,689 of direct spending, Sprout contributes \$96,300 of indirect effects and \$18,000 of induced effects. The indirect effects of Sprout

are relatively high. This is because Sprout’s main purchases (local foods) are produced in the region. Thus, the money spent by Sprout circulates throughout the region.

Included in the \$221,000 of economic contribution is \$70,300 in labor income. Again, the indirect effects of labor income are higher than induced effects. In addition to the local aspect of the food purchases, for farming operations, household income is taken from farm income. Thus the income earned by farmers from selling to Sprout will appear in the output figures, not in the labor income figures.

During 2015, Sprout employed three people. Sprout’s operations generate one additional job in the region. Additionally, Sprout made purchases from 61 growers.

Table 2: Total Economic Contribution, Sprout, 2015

	Output	Employment	Labor Income
Direct	\$106,689	3	\$34,375
Indirect	\$96,300	0.8	\$30,700
Induced	\$18,000	0.3	\$5,200
Total	\$220,989	4	\$70,275
Contributing Growers		61	

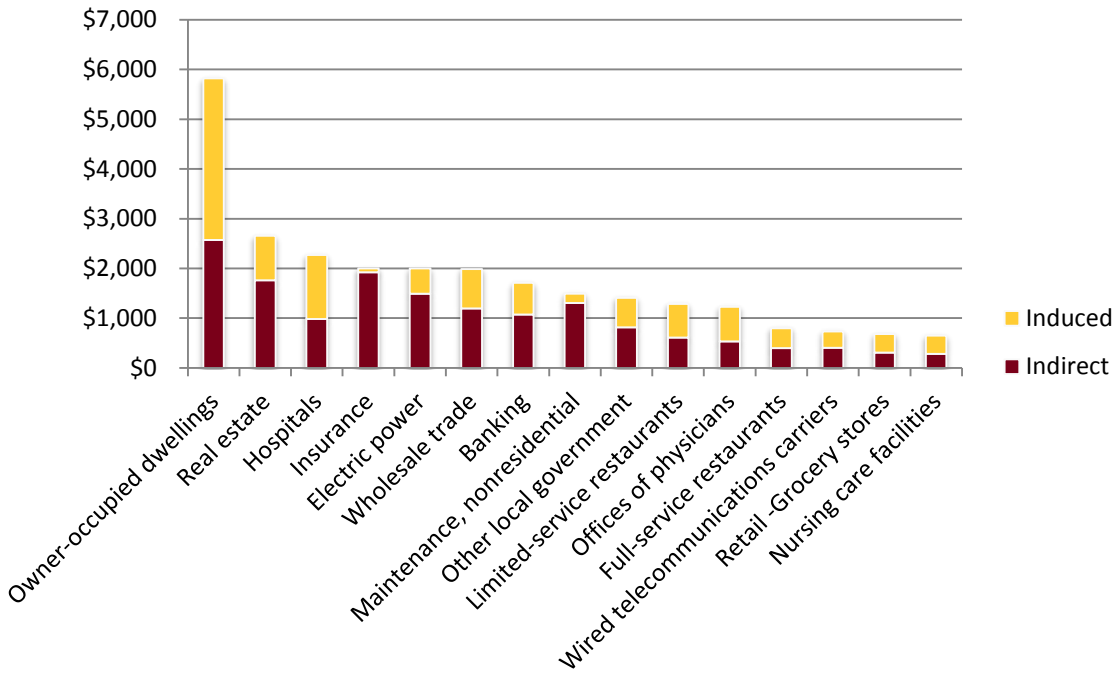
Estimates by University of Minnesota Extension

Top Industries Impacted

Sprout supported an estimated \$221,000 of economic activity in the region. Of that, \$106,689 was direct spending by Sprout. Thus, Sprout supported \$114,300 of sales at other businesses in the five counties. Chart 2 illustrates the top 15 industries supported by Sprout. These impacts are driven by local expenditures and vary depending on the types of local purchases. Indirect effects are those created through Sprout’s expenditures for goods and services. Its local expenditures highly influenced real estate, both owner-occupied dwellings (which accounts for housing) and real estate (which includes rental units). This is partially a reflection of employee spending and partially the land intensive nature of farming.

Induced effects are generated because Sprout’s employees spent wages and salaries in the local economy. Housing and health care are major expenditures for most households; therefore, it is not surprising to see induced impacts in those industries.

Chart 2: Top Industries Impacted, Sprout 2015



Comparison to Wholesale Sourcing

If institutions, such as schools and restaurants, along with other buyers in the five-county region, did not purchase food from Sprout, the most likely alternative would be to purchase the food from a wholesale distributor. This is called substitution. Since consumers have a choice (Sprout versus a wholesaler), its worthwhile examining the impact of purchases from wholesalers versus the food hub.

In 2015, Sprout earned \$61,700 from local food sales. If local institutions and other buyers spent \$61,700 on purchases from wholesalers instead of Sprout, the total economic contribution would be an estimated \$67,100 (Table 3). This includes 0.2 jobs and \$17,025 in labor income and compares to the larger \$221,000 contribution of Sprout.

Table 3: Economic Contribution of \$61,700 in Wholesale Trade (Alternative to Purchasing Via Sprout)

	Output	Employment	Labor Income
Direct	\$61,700	0.2	\$15,425
Indirect	\$3,400	0.0	\$1,000
Induced	\$2,000	0.0	\$600
Total	\$67,100	0.2	\$17,025

Estimates by University of Minnesota Extension

It's worth noting the above analysis relies on a dollar-to-dollar substitution. In essence, it assumes the same amount of money would be spent, regardless of the product source. In reality, it is likely a price differential exists, with local foods costing slightly more to purchase. Thus, the same dollar expenditures would not necessarily purchase the same volume of product. If the substitution were to be measured in pounds of product sold, the amount spent to purchase wholesale goods (direct effect) would likely be even lower than presented in Table 3, thus lowering the economic contribution of wholesale purchases.

POTENTIAL ECONOMIC CONTRIBUTION, 2017

As mentioned, Sprout undertook an expansion in spring 2016, adding Sprout Growers and Makers Marketplace. The marketplace features space for market vendors, a demonstration kitchen, a processing kitchen, commercial coolers and freezers, and storage spaces.

The expansion will affect the total economic contribution of Sprout. Sprout also plans to continue to grow. Under the current model, some major costs, such as labor and rent, are provided at a reduced cost to Sprout. As Sprout becomes more successful, these expenditures will increase. Sprout has prepared a business plan with projections for expenditures in 2017. To demonstrate how the expansion and growth will change economic contribution, Extension ran an analysis on the 2017 projections.

Direct Effect

In 2017, Sprout estimates it will spend \$209,608 to operate the food hub and marketplace (Table 4). It intends to employ three people and pay \$103,943 in employee compensation. Sprout also plans to make purchases from more than 75 farmers in 2017.

Table 4: Projected Direct Operating Expenditures and Wages, Sprout, 2017

Type of Effect	Output (Sales)	Employees	Labor Income Paid	Growers Contributing to Food Hub
Value	\$209,608	3	\$103,943	75 plus

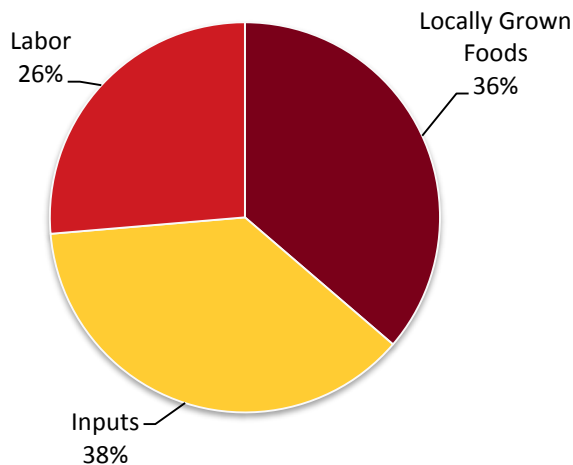
Data provided to Extension by Sprout

In general, Sprout projects similar expenditures but anticipates an increased dollar value of those expenditures. Labor income is one example. In 2015, Sprout spent slightly more than \$34,000 on labor. In 2017, Sprout anticipates paying nearly \$104,000 in labor. The number of employees is not anticipated to increase. Rather, the hours worked by each employee will likely increase. In addition, the general manager’s salary will now be covered by Sprout.

Another planned increase is expenditures for local foods. Sprout anticipates increasing the volume of local foods moved through the facility. In 2015, Sprout purchased just shy of \$41,000 worth of local foods. In 2017, Sprout’s projections include \$143,000 of local food purchases.

The breakdown of 2017 expenditures (Chart 3) does not appear to be significantly different than 2015.

Chart 3: Expenditures by Category, Sprout, 2017



Total Economic Contribution

In 2017, if Sprout’s projections are achieved, it will contribute an estimated \$593,500 to the economy of Crow Wing, Cass, Morrison, Todd, and Wadena counties (Table 5). In addition to the \$290,600 of direct spending, Sprout will contribute \$248,300 of indirect effects and \$54,600 of induced effects.

Included in the \$593,500 of economic contribution is an estimated \$206,600 in labor income. Sprout would also contribute five jobs to the area economy and plans to purchase from more than 75 farmers in 2017.

Table 5: Total Projected Economic Contribution, Sprout, 2017

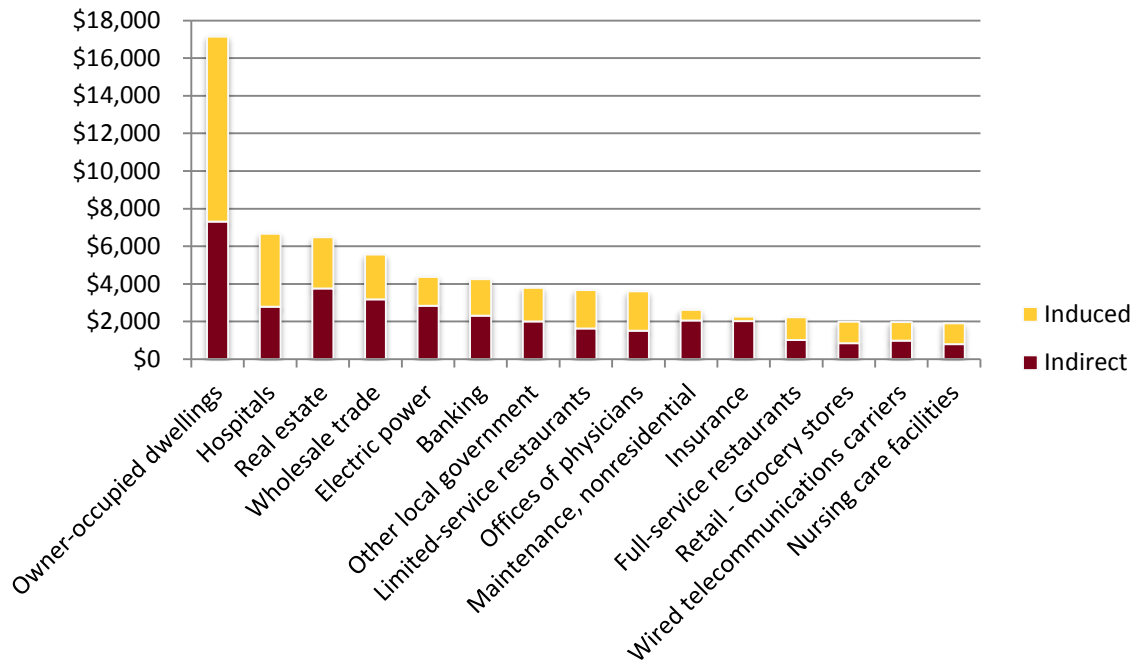
	Output	Employment	Labor Income
Direct	\$290,608	3	\$103,943
Indirect	\$248,300	1.6	\$87,000
Induced	\$54,600	0.5	\$15,700
Total	\$593,508	5.1	\$206,643
Contributing Growers		75 plus	

Estimates by University of Minnesota Extension

Top Industries Impacted

Since the kinds of expenditures Sprout plans to make in 2017 do not differ significantly from its 2015 expenditures, the top industries impacted are also similar (Chart 4).

Chart 4: Top Industries Impacted, Sprout 2017



APPENDIX: METHODS AND DEFINITION OF TERMS

Special models, called input-output models, exist to conduct economic contribution analysis. There are several input-output models available. IMPLAN (Impact Analysis for PLANning, Minnesota IMPLAN Group)² is one such model. Many economists use IMPLAN for economic contribution analysis because it can measure output and employment impacts, is available on a county-by-county basis, and is flexible for the user. IMPLAN has some limitations and qualifications, but it is one of the best tools available to economists for input-output modeling. Understanding the IMPLAN tool, its capabilities, and its limitations will help ensure the best results from the model.

One of the most critical aspects of understanding economic impact analysis is the distinction between the “local” and “non-local” economy. The local economy is identified as part of the model-building process. Either the group requesting the study or the analyst defines the local area. Typically, the study area (the local economy) is a county or a group of counties that share economic linkages. In this analysis, the study area includes Cass, Crow Wing, Morrison, Todd, and Wadena counties in Central Minnesota.

A few definitions are essential in order to properly read the results of an IMPLAN analysis. These terms and their definitions are provided below.

Output

Output is measured in dollars and is equivalent to total sales. The output measure can include significant “double counting.” Think of corn, for example. The value of the corn is counted when it is sold to the mill, again when it is sold to the dairy farmer, again as part of the price of fluid milk, and yet again when it is sold as cheese. The value of the corn is built into the price of each item and then the sales of each item are added to get total sales (or output).

Employment

Employment includes full- and part-time workers and is measured in annual average jobs, not full-time equivalents (FTE’s). IMPLAN includes total wage and salaried employees, as well as the self-employed, in employment estimates. Because employment is measured in jobs and not in dollar values, it tends to be a very stable metric.

Labor Income

Labor income measures the value added to the product by the labor component. So, in the corn example, when the corn is sold to the mill, a certain percentage of the sale goes to the farmer for his/her labor. Then when the mill sells the corn as feed to dairy farmers, it includes some markup for its labor costs in the price. When dairy farmers sell the milk to the cheese manufacturer, they include a value for their labor. These individual value increments for labor can be measured, which amounts to labor income. Labor income does *not* include double counting.

Direct Impact

Direct impact is equivalent to the initial activity in the economy. In this study, it is spending by Sprout on operating expenses – goods and services for the food hub and salaries, wages and benefits.

² IMPLAN Version 3.0 was used in this analysis. The trade flows model with SAM multipliers was implemented.

Indirect Impact

The indirect impact is the summation of changes in the local economy that occur due to **spending for inputs** (goods and services) by the industry or industries directly impacted. For instance, if employment in a manufacturing plant increases by 100 jobs, this implies a corresponding increase in output by the plant. As the plant increases output, it must also purchase more inputs, such as electricity, steel, and equipment. As the plant increases purchases of these items, its suppliers must also increase production, and so forth. As these ripples move through the economy, they can be captured and measured. Ripples related to the purchase of goods and services are indirect impacts. In this study, indirect impacts are those associated with spending by Sprout for operating items.

Induced Impact

The induced impact is the summation of changes in the local economy that occur due to **spending by labor**. For instance, if employment in a manufacturing plant increases by 100 jobs, the new employees will have more money to spend to purchase housing, buy groceries, and go out to dinner. As they spend their new income, more activity occurs in the local economy. Induced impacts also include spending by labor generated by indirect impacts. So, if the food hub purchases services from a local tax preparer, spending of the tax preparer's wages would also create induced impacts. Primarily, in this study, the induced impacts are those economic changes related to spending by Sprout employees.

Total Impact

The total impact is the summation of the direct, indirect, and induced impacts.

Input-Output, Supply and Demand, and Size of Market

Care must be taken when using regional input-output models to ensure they are being used in the appropriate type of analysis. If input-output models are used to examine the impact or the contribution of an industry so large that its expansion or contraction causes the prices of inputs and labor to change, input-output can overstate the impacts or contributions. While Sprout is contributing to Central Minnesota's economy, it is not likely that its existence has an impact on national prices. Hence, the model should estimate the contributions reliably.