

7 Growing Jobs and Investments

What would be the regional impact of a ten percent increase in production and sales in the food supply chain? SPC used the *MIG IMPLAN* software system to determine the impact of the increase. *IMPLAN* is economic analysis software that uses a core method of looking at Social Accounting Matrices (SAM) to capture dollar amount transactions reported by businesses and governmental agencies throughout counties and regions. With the use of the SAMs, Multiplier Models can be applied to estimate the extent and distribution of economic impacts. The Multiplier Models reflect three types of effects to a specific industry:

- **Direct Effects** are effects directly tied to the original number and the multiplier. For employment, the direct effect is the combination of the current employment and the addition of the 10% multiplier.
- **Indirect Effects** are the effects of what goods and services were bought from other local industries, such as what was spent on supplies, services, labor and taxes.
- **Induced Effects** are the result of the additional money that is re-spent in the local economy as a result of the money spent and distributed through the indirect effects. This effect takes into account the additional income and spending patterns of households outside of the examined industry that create economic activity.

IMPLAN also evaluates four categories in each industry to better understand the multiplier effect across multiple levels:

- **Employment/Jobs** in *IMPLAN* represent the annual average of monthly jobs in a specific industry. The Quarterly Census of Employment and Wages, Bureau of Labor Statistics and Bureau of Economic Analysis also use this definition in their employment numbers. The jobs represented could be full time or part time jobs.
- **Value Added** totals represent the difference in an industry's total output (sales and other operating income) and the cost of its intermediate inputs (goods and services consumed from other industries).
- **Labor Income** is a total of all forms of employment income, which includes wages and benefits for employees as well as proprietor income.
- **Output** shows the value of the industry production. This is different depending on the industry:
 - In manufacturing, output is sales plus/minus the change in inventory.
 - For service sectors, output equals the total number of sales.
 - For retail and wholesale trade, output is the gross margin.

Figure 7-1: IMPLAN Predicted Total Effects in Food Related Sectors after a 10% Increase

Crop Production (NAICS: 111)	Direct	Indirect	Induced	Total
Employment	514	95	83	693
Value Added	\$7,829,734.29	\$5,401,472.91	\$6,920,501.65	\$20,151,708.85
Labor Income	\$10,023,812.04	\$3,204,086.32	\$3,935,466.26	\$17,163,364.63
Output	\$21,602,505.22	\$10,079,799.11	\$10,866,235.53	\$42,548,539.85
Animal Production (NAICS: 112)	Direct	Indirect	Induced	Total
Employment	551	151	54	755
Value Added	\$10,264,672.18	\$5,608,417.92	\$4,467,770.99	\$20,340,861.09
Labor Income	\$5,045,962.73	\$3,424,371.31	\$2,539,285.98	\$11,009,620.02
Output	\$28,800,491.08	\$15,562,981.51	\$7,014,137.32	\$51,377,609.91
Food Manufacturing (NAICS: 311)	Direct	Indirect	Induced	Total
Employment Added	621	1,220	591	2,432
Value Added	\$58,331,684.42	\$86,578,762.62	\$44,500,534.37	\$189,410,981.42
Labor Income	\$29,635,918.36	\$54,054,666.46	\$25,276,971.61	\$108,967,556.43
Output	\$359,351,301.17	\$193,055,876.47	\$69,853,014.81	\$622,260,192.46
Beverage and Tobacco Product Manufacturing (NAICS: 312)	Direct	Indirect	Induced	Total
Employment	41	75	46	162
Value Added	\$11,781,422.78	\$13,653,553.21	\$8,589,352.58	\$34,024,328.57
Labor Income	\$6,878,390.50	\$9,248,789.40	\$4,879,144.82	\$21,006,324.72
Output	\$68,442,588.77	\$25,855,057.84	\$13,482,956.76	\$107,780,603.37
Retail, Restaurants, and Consumer Service (NAICS: 424, 444, 445, 722)	Direct	Indirect	Induced	Total
Employment	19,150	3,889	6,814	29,853
Value Added	\$1,259,612,616.50	\$375,173,457.10	\$568,063,235.58	\$2,202,849,309.18
Labor Income	\$827,735,263.20	\$239,294,129.14	\$322,644,122.05	\$1,389,673,514.39
Output	\$1,946,330,950.26	\$589,409,238.80	\$891,679,048.20	\$3,427,419,237.26

Source: IMPLAN 2012 data projected for 2014

Figure 7-1 shows the total effects for each of the main food categories in the region. The categories are formed based on the NAICS codes for the selected food industries. Between these NAICS categories the “retail, restaurants, and consumer services” industries produce the most jobs throughout the region. Outside of those NAICS codes, the Food Manufacturing industry would ultimately create the most jobs at around 2,400 more jobs, with the greatest impact in the indirect effects. A more summarized version of this information can be seen in Figure 7-2.

The 10% increase reflected in Figure 7-1 can be found broken down into the industry sectors in Figures 7-3, 7-4, and 7-5. These illustrate a more detailed explanation of the impact that a 10% increase in the food supply chain would have on the industry and outside industries.

Figure 7-2: Impacts in Employment after a 10% Increase in Food Supply Chain

Crop Production	Direct	Indirect	Induced	Total
Oilseed farming	72	9	8	89
Grain Farming	277	33	14	324
Vegetable and Melon Farming	26	9	13	48
Fruit Farming	19	7	9	35
<i>Tree Nut Farming*</i>	0	0	0	0
Greenhouse, Nursery, and Floriculture Production	41	4	16	61
<i>Tobacco Farming*</i>	0	0	0	0
All Other Crop Farming	79	32	23	134
Subtotal	514	95	83	693
Animal Production	Direct	Indirect	Induced	Total
Cattle Ranching and Farming	157	88	15	260
Dairy Cattle and Milk Production	210	41	23	273
Poultry and Egg Production	24	16	11	50
Animal production, except cattle, poultry, and eggs	160	7	4	171
Subtotal	551	151	54	755
Food Manufacturing	Direct	Indirect	Induced	Total
Other animal food manufacturing	8	53	13	74
Fats and Oils Refining and Blending	14	140	55	209
Confectionery Manufacturing from Purchased Chocolate	83	61	57	201
<i>Nonchocolate Confectionery Manufacturing*</i>	0	0	0	1
Frozen Food Manufacturing	12	13	7	32
Fruit and Vegetable Canning, Pickling, and Drying	121	131	113	366
Fluid Milk and Butter Manufacturing	62	336	111	508
Cheese Manufacturing	31	110	41	182
Animal (except poultry) slaughtering, rendering, and processing	47	184	31	262
Bread and Bakery Product Manufacturing	147	76	63	286
Cookie, Cracker, and Pasta Manufacturing	25	25	20	70
Snack Food Manufacturing	8	16	9	34
Coffee and Tea Manufacturing	2	4	3	9
Seasoning and Dressing Manufacturing	5	7	5	17
All Other Food Manufacturing	9	10	5	25
Soft Drink and Ice Manufacturing	46	52	57	156
Subtotal	621	1,220	591	2,432
Beverage and Tobacco Product Manufacturing	Direct	Indirect	Induced	Total
Breweries	31	67	40	139
Wineries	9	6	5	20
Distilleries	1	1	1	3
<i>Tobacco Product Manufacturing*</i>	0	0	0	1
Subtotal	41	75	46	162
Retail, Restaurants, and Consumer Service	Direct	Indirect	Induced	Total
Wholesale Trade Businesses	5,044	2,325	3,981	11,351
Retail Stores - Building Material and Garden Supply	1,018	152	326	1,496
Retail Stores - Food and Beverage	3,013	328	732	4,073
Food Services and Drinking Place	10,075	1,084	1,774	12,933
Subtotal	19,150	3,889	6,814	29,853

Source: IMPLAN 2012 data projected for 2014

*Note: The categories in italics are industries in the region but where a 10% increase would have little to no impact in the industry because of the small existing industry size.

Figure 7-3: Impacts in Value Added after a 10% Increase in Food Supply Chain

Crop Production	Direct	Indirect	Induced	Total
Oilseed farming	\$1,123,585.04	\$587,555.03	\$699,806.45	\$2,410,946.52
Grain Farming	\$993,510.47	\$1,978,892.18	\$1,132,901.29	\$4,105,303.94
Vegetable and Melon Farming	\$1,178,172.88	\$447,593.06	\$1,074,413.36	\$2,700,179.29
Fruit Farming	\$774,775.28	\$295,668.96	\$771,602.00	\$1,842,046.24
Tree Nut Farming	\$2,444.78	\$716.82	\$1,379.97	\$4,541.57
Greenhouse, Nursery, and Floriculture Production	\$1,586,664.69	\$259,943.39	\$1,301,104.16	\$3,147,712.25
Tobacco Farming	\$859.84	\$1,115.35	\$1,475.88	\$3,451.07
All Other Crop Farming	\$2,169,721.31	\$1,829,988.11	\$1,937,818.54	\$5,937,527.97
Subtotal	\$7,829,734.29	\$5,401,472.91	\$6,920,501.65	\$20,151,708.85
Animal Production	Direct	Indirect	Induced	Total
Cattle Ranching and Farming	\$1,495,516.70	\$2,426,907.91	\$1,288,443.41	\$5,210,868.01
Dairy Cattle and Milk Production	\$6,627,774.42	\$2,170,292.81	\$1,931,128.46	\$10,729,195.68
Poultry and Egg Production	\$950,874.90	\$787,368.59	\$908,611.45	\$2,646,854.93
Animal production, except cattle, poultry, and eggs	\$1,190,506.16	\$223,848.62	\$339,587.68	\$1,753,942.46
Subtotal	\$10,264,672.18	\$5,608,417.92	\$4,467,770.99	\$20,340,861.09
Food Manufacturing	Direct	Indirect	Induced	Total
Other animal food manufacturing	\$1,157,474.72	\$2,359,126.47	\$1,111,405.05	\$4,628,006.23
Fats and Oils Refining and Blending	\$4,870,984.98	\$12,538,183.18	\$4,564,503.63	\$21,973,671.80
Confectionery Manufacturing from Purchased Chocolate	\$9,111,704.00	\$7,353,712.33	\$4,746,883.73	\$21,212,300.06
Nonchocolate Confectionery Manufacturing	\$23,010.28	\$22,160.99	\$14,267.86	\$59,439.13
Frozen Food Manufacturing	\$690,792.95	\$1,010,168.78	\$587,637.27	\$2,288,599.00
Fruit and Vegetable Canning, Pickling, and Drying	\$14,521,919.78	\$14,748,783.06	\$9,390,058.12	\$38,660,760.96
Fluid Milk and Butter Manufacturing	\$10,327,907.37	\$23,887,618.23	\$9,235,063.77	\$43,450,589.37
Cheese Manufacturing	\$3,476,537.47	\$7,568,143.01	\$3,448,478.28	\$14,493,158.76
Animal (except poultry) slaughtering, rendering, and processing	\$1,900,475.75	\$3,855,418.56	\$2,612,144.66	\$8,368,038.98
Bread and Bakery Product Manufacturing	\$7,263,808.17	\$7,131,555.75	\$5,273,080.80	\$19,668,444.71
Cookie, Cracker, and Pasta Manufacturing	\$2,446,080.19	\$2,642,429.11	\$1,646,873.33	\$6,735,382.62
Snack Food Manufacturing	\$1,329,072.93	\$1,483,412.73	\$774,668.09	\$3,587,153.76
Coffee and Tea Manufacturing	\$319,145.52	\$453,754.92	\$258,363.62	\$1,031,264.07
Seasoning and Dressing Manufacturing	\$385,327.70	\$722,697.69	\$401,202.82	\$1,509,228.22
All Other Food Manufacturing	\$507,442.62	\$801,597.81	\$435,903.35	\$1,744,943.78
Subtotal	\$58,331,684.42	\$86,578,762.62	\$44,500,534.37	\$189,410,981.42

Source: IMPLAN 2012 data projected for 2014

Figure 7-3 continued: Impacts in Value Added after a 10% Increase in Food Supply Chain

Beverage and Tobacco Product Manufacturing	Direct	Indirect	Induced	Total
Soft Drink and Ice Manufacturing	\$5,683,729.97	\$6,273,665.89	\$4,725,202.76	\$16,682,598.62
Breweries	\$5,543,367.80	\$6,497,075.86	\$3,355,283.99	\$15,395,727.65
Wineries	\$313,424.62	\$706,552.20	\$410,846.46	\$1,430,823.28
Distilleries	\$95,770.11	\$119,409.15	\$67,906.06	\$283,085.32
Tobacco Product Manufacturing	\$145,130.27	\$56,850.11	\$30,113.30	\$232,093.69
Subtotal	\$11,781,422.78	\$13,653,553.21	\$8,589,352.58	\$34,024,328.57
Retail, Restaurants, and Consumer Service	Direct	Indirect	Induced	Total
Wholesale Trade Businesses	\$783,760,195.81	\$218,508,145.11	\$331,871,300.61	\$1,334,139,641.53
Retail Stores - Building Material and Garden Supply	\$58,500,574.38	\$14,756,509.24	\$27,180,476.57	\$100,437,560.19
Retail Stores - Food and Beverage	\$117,056,102.43	\$31,636,646.52	\$61,040,188.57	\$209,732,937.52
Food Services and Drinking Place	\$300,295,743.87	\$110,272,156.24	\$147,971,269.83	\$558,539,169.94
Subtotal	\$1,259,612,616.50	\$375,173,457.10	\$568,063,235.58	\$2,202,849,309.18

Source: *IMPLAN* 2012 data projected for 2014



Figure 7-4: Impacts in Labor Income after a 10% Increase in Food Supply Chain

Crop Production	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Oilseed farming	\$1,019,303.18	\$323,061.48	\$398,072.67	\$1,740,437.34
Grain Farming	\$1,058,132.94	\$1,097,093.01	\$644,054.69	\$2,799,280.63
Vegetable and Melon Farming	\$1,758,148.53	\$299,740.49	\$611,064.85	\$2,668,953.86
Fruit Farming	\$1,256,594.06	\$223,767.71	\$438,899.81	\$1,919,261.58
Tree Nut Farming	\$2,098.82	\$532.13	\$784.57	\$3,415.52
Greenhouse, Nursery, & Floriculture Production	\$2,315,316.62	\$173,391.54	\$739,909.41	\$3,228,617.57
Tobacco Farming	\$2,192.09	\$636.98	\$839.46	\$3,668.54
All Other Crop Farming	\$2,612,025.79	\$1,085,862.99	\$1,101,840.81	\$4,799,729.60
Subtotal	\$10,023,812.04	\$3,204,086.32	\$3,935,466.26	\$17,163,364.63
Animal Production	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Cattle Ranching and Farming	\$984,814.75	\$1,450,942.94	\$732,127.88	\$3,167,885.57
Dairy Cattle and Milk Production	\$2,342,727.81	\$1,323,282.03	\$1,097,686.02	\$4,763,695.87
Poultry and Egg Production	\$1,212,387.43	\$512,736.47	\$516,488.06	\$2,241,611.97
Animal production, except cattle, poultry, & eggs	\$506,032.74	\$137,409.87	\$192,984.00	\$836,426.62
Subtotal	\$5,045,962.73	\$3,424,371.31	\$2,539,285.98	\$11,009,620.02
Food Manufacturing	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Other animal food manufacturing	\$499,026.04	\$1,565,042.39	\$631,320.01	\$2,695,388.44
Fats and Oils Refining and Blending	\$924,313.39	\$7,661,999.50	\$2,592,783.92	\$11,179,096.82
Confectionery Manufacturing from Purchased Chocolate	\$3,962,725.28	\$4,966,742.10	\$2,696,131.64	\$11,625,599.01
Nonchocolate Confectionery Manufacturing	\$11,956.29	\$14,812.80	\$8,103.57	\$34,872.65
Frozen Food Manufacturing	\$413,957.99	\$691,471.82	\$333,777.98	\$1,439,207.79
Fruit and Vegetable Canning, Pickling, & Drying	\$7,764,943.43	\$9,897,141.11	\$5,333,586.61	\$22,995,671.16
Fluid Milk and Butter Manufacturing	\$3,810,094.95	\$13,579,484.06	\$5,246,045.78	\$22,635,624.79
Cheese Manufacturing	\$2,151,713.34	\$4,333,411.61	\$1,958,794.28	\$8,443,919.24
Animal (except poultry) slaughtering, rendering, and processing	\$2,523,183.38	\$2,395,067.15	\$1,483,751.14	\$6,402,001.67
Bread and Bakery Product Manufacturing	\$5,073,240.03	\$4,837,325.80	\$2,994,948.46	\$12,905,514.30
Cookie, Cracker, and Pasta Manufacturing	\$1,357,507.87	\$1,739,183.78	\$935,414.21	\$4,032,105.86
Snack Food Manufacturing	\$415,378.33	\$1,041,948.86	\$440,042.26	\$1,897,369.45
Coffee and Tea Manufacturing	\$167,228.86	\$318,561.39	\$146,766.76	\$632,557.00
Seasoning and Dressing Manufacturing	\$258,718.13	\$495,545.80	\$227,896.01	\$982,159.93
All Other Food Manufacturing	\$301,931.05	\$516,928.28	\$247,608.98	\$1,066,468.31
Subtotal	\$29,635,918.36	\$54,054,666.46	\$25,276,971.61	\$108,967,556.43
Beverage and Tobacco Product Manufacturing	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Soft Drink and Ice Manufacturing	\$4,768,968.74	\$4,127,409.89	\$2,684,311.16	\$11,580,689.79
Breweries	\$1,760,039.06	\$4,521,889.27	\$1,905,801.49	\$8,187,729.81
Wineries	\$285,579.73	\$479,567.01	\$233,349.81	\$998,496.55
Distilleries	\$45,961.65	\$81,225.12	\$38,575.53	\$165,762.31
Tobacco Product Manufacturing	\$17,841.33	\$38,698.11	\$17,106.83	\$73,646.27
Subtotal	\$6,878,390.50	\$9,248,789.40	\$4,879,144.82	\$21,006,324.72
Retail, Restaurants, and Consumer Service	Direct Effect	Indirect Effect	Induced Effect	Total Effect
Wholesale Trade Businesses	\$476,140,755.52	\$146,884,447.51	\$188,502,918.14	\$811,528,121.16
Retail Stores-Building Material & Garden Supply	\$42,568,711.95	\$8,607,810.80	\$15,438,527.77	\$66,615,050.53
Retail Stores - Food and Beverage	\$96,240,515.63	\$18,469,035.95	\$34,665,763.62	\$149,375,315.20
Food Services and Drinking Place	\$212,785,280.11	\$65,332,834.87	\$84,036,912.51	\$362,155,027.50
Subtotal	\$827,735,263.20	\$239,294,129.14	\$322,644,122.05	\$1,389,673,514.39

Source: IMPLAN 2012 data projected for 2014

Figure 7-5: Impacts in Output after a 10% Increase in Food Supply Chain

Crop Production	Direct	Indirect	Induced	Total
Oilseed farming	\$2,599,369.15	\$1,044,959.01	\$1,098,879.15	\$4,743,207.30
Grain Farming	\$6,360,647.23	\$3,745,004.05	\$1,778,697.79	\$11,884,349.08
Vegetable and Melon Farming	\$2,243,785.00	\$817,659.39	\$1,687,046.43	\$4,748,490.82
Fruit Farming	\$1,468,923.63	\$539,412.54	\$1,211,609.14	\$3,219,945.31
Tree Nut Farming	\$4,104.26	\$1,295.78	\$2,166.64	\$7,566.69
Greenhouse, Nursey, and Floriculture Production	\$2,337,702.98	\$505,056.22	\$2,042,940.53	\$4,885,699.73
Tobacco Farming	\$3,647.98	\$1,981.06	\$2,317.47	\$7,946.50
All Other Crop Farming	\$6,584,324.99	\$3,424,431.05	\$3,042,578.38	\$13,051,334.42
Subtotal	\$21,602,505.22	\$10,079,799.11	\$10,866,235.53	\$42,548,539.85
Animal Production	Direct	Indirect	Induced	Total
Cattle Ranching and Farming	\$8,547,675.86	\$6,942,106.15	\$2,022,668.31	\$17,512,450.32
Dairy Cattle and Milk Production	\$13,693,143.39	\$5,607,654.13	\$3,031,836.37	\$22,332,633.89
Poultry and Egg Production	\$4,615,748.53	\$2,506,411.91	\$1,426,514.85	\$8,548,675.29
Animal production, except cattle, poultry, and eggs	\$1,943,923.29	\$506,809.33	\$533,117.78	\$2,983,850.41
Subtotal	\$28,800,491.08	\$15,562,981.51	\$7,014,137.32	\$51,377,609.91
Food Manufacturing	Direct	Indirect	Induced	Total
Other animal food manufacturing	\$11,520,228.70	\$5,969,168.89	\$1,744,582.09	\$19,233,979.67
Fats and Oils Refining and Blending	\$64,482,502.34	\$40,775,428.50	\$7,165,006.04	\$112,422,936.87
Confectionery Manufacturing from Purchased Chocolate	\$33,797,512.91	\$13,867,911.83	\$7,451,132.91	\$55,116,557.65
Nonchocolate Confectionery Manufacturing	\$91,756.31	\$40,835.39	\$22,395.87	\$154,987.58
Frozen Food Manufacturing	\$4,046,264.21	\$1,877,429.30	\$922,415.71	\$6,846,109.22
Fruit and Vegetable Canning, Pickling, and Drying	\$67,062,834.53	\$27,198,021.89	\$14,739,619.00	\$109,000,475.41
Fluid Milk and Butter Manufacturing	\$79,082,425.90	\$51,380,964.37	\$14,496,653.76	\$144,960,044.03
Cheese Manufacturing	\$32,268,231.61	\$16,541,495.11	\$5,413,121.09	\$54,222,847.81
Animal (except poultry) slaughtering, rendering, and processing	\$15,879,848.90	\$11,336,488.72	\$4,100,327.38	\$31,316,665.00
Bread and Bakery Product Manufacturing	\$26,266,945.15	\$12,375,103.29	\$8,277,059.67	\$46,919,108.11
Cookie, Cracker, and Pasta Manufacturing	\$11,478,853.17	\$5,026,127.69	\$2,585,094.06	\$19,090,074.92
Snack Food Manufacturing	\$6,013,773.66	\$3,023,566.52	\$1,216,018.19	\$10,253,358.36
Coffee and Tea Manufacturing	\$1,610,859.88	\$768,816.91	\$405,564.22	\$2,785,241.01
Seasoning and Dressing Manufacturing	\$2,853,469.68	\$1,476,088.06	\$629,776.96	\$4,959,334.70
All Other Food Manufacturing	\$2,895,794.23	\$1,398,430.01	\$684,247.88	\$4,978,472.11
Subtotal	\$359,351,301.17	\$193,055,876.47	\$69,853,014.81	\$622,260,192.46

Source: IMPLAN 2012 data projected for 2014

Figure 7-5 continued: Impacts in Output after a 10% Increase in Food Supply Chain

Beverage and Tobacco Product Manufacturing	Direct	Indirect	Induced	Total
Soft Drink and Ice Manufacturing	\$37,180,275.75	\$11,837,440.84	\$7,417,421.42	\$56,435,138.01
Breweries	\$27,396,547.95	\$12,478,998.72	\$5,266,775.93	\$45,142,322.60
Wineries	\$2,880,599.71	\$1,223,012.96	\$644,893.95	\$4,748,506.62
Distilleries	\$487,757.60	\$212,274.67	\$106,595.03	\$806,627.29
Tobacco Product Manufacturing	\$497,407.76	\$103,330.66	\$47,270.43	\$648,008.84
Subtotal	\$68,442,588.77	\$25,855,057.84	\$13,482,956.76	\$107,780,603.37
Retail, Restaurants, and Consumer Service	Direct	Indirect	Induced	Total
Wholesale Trade Businesses	\$1,132,573,151.46	\$338,073,319.86	\$520,938,273.65	\$1,991,584,744.98
Retail Stores - Building Material and Garden Supply	\$81,905,387.40	\$22,483,264.14	\$42,665,306.75	\$147,053,958.29
Retail Stores - Food and Beverage	\$167,308,767.63	\$48,213,913.83	\$95,811,625.80	\$311,334,307.26
Food Services and Drinking Place	\$564,543,643.77	\$180,638,740.97	\$232,263,842.00	\$977,446,226.74
Subtotal	\$1,946,330,950.26	\$589,409,238.80	\$891,679,048.20	\$3,427,419,237.26

Source: IMPLAN 2012 data projected for 2014

The local food supply chain in Southwestern Pennsylvania is an important economic sector, employing thousands of people and engaging hundreds of businesses.

A ten percent increase in activity along the supply chain would have a strong ripple effect, evidence that this sector could serve as an effective generator for local jobs and businesses.

