

## Poultry production and processing

### *Region*

Holmes, Stark, and Tuscarawas Counties, OH

### *Current Economic Activity*

\$88,578,000 Poultry and egg production

\$230,040,000 Poultry processing

### *Local Purchasing Method*

Industry local market supply ratios based on current trade flows.

## Contribution Summary

The total projected contribution for this case is \$655.4 million in regional output, which is approximately 1.5% of the estimated output for the region, \$229.7 million in gross regional product (value added), 4,315 jobs, and \$111.9 million in household earnings. Broken down into component parts, the direct contribution for this case includes 1,975 jobs, \$64.1 million in gross regional product, and \$36.0 million in household earnings. The industry life cycle back through the supply chain contributes 1,104 jobs in the region, \$84.3 million in gross regional product, and \$39.6 million in earnings. The household life cycle forward through the spending of income contributes 1,235 jobs, \$81.3 million in gross regional product, and \$36.3 million in earnings.

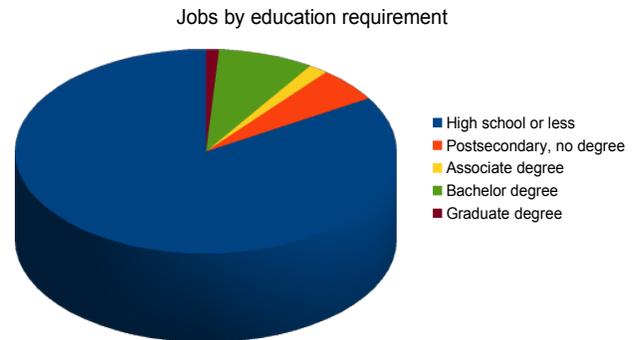
The pro forma economic contribution statement is shown below. This statement lists the projected contribution for this case, along with the direct effect and final demand multipliers. Direct effect multipliers use the direct contribution as the denominator for each economic metric, while the final demand multipliers use the direct output contribution as the denominator when calculating each multiplier.

### Pro Forma Economic Contribution Statement

<b>Economic Contribution</b>	<b>Output</b>	<b>Employment</b>	<b>Value Added</b>	<b>Earnings</b>
Direct	\$318,618,000	1,975	\$64,078,385	\$36,025,435
Life Cycle				
Industry Supply (Indirect)	\$195,635,496	1,104	\$84,285,004	\$39,594,595
Household Spending (Induced)	\$141,177,222	1,235	\$81,314,253	\$36,275,995
Combined	<u>\$655,430,718</u>	<u>4,315</u>	<u>\$229,677,642</u>	<u>\$111,896,025</u>
Direct Effect Multipliers	2.06	2.18	3.58	3.11
Final Demand Multipliers	2.06	13.5	0.72	0.35

## Workforce Contribution

Most of the contribution in jobs for this case are entry level jobs requiring a high school diploma or less. Of these jobs, about one in four offer moderate- to long-term training or apprenticeships. Jobs requiring an Associate's degree or higher account for about one in nine jobs. Of the 347 jobs requiring a bachelor's degree, only 56 are created by poultry production and processing industries; the remaining jobs are created mostly in service and trade industries resulting from the spending of earnings by households. The projected contribution in self-employment is 311 jobs. Life cycle employment for this case contributes an estimated 2.2% of total employment in the region.

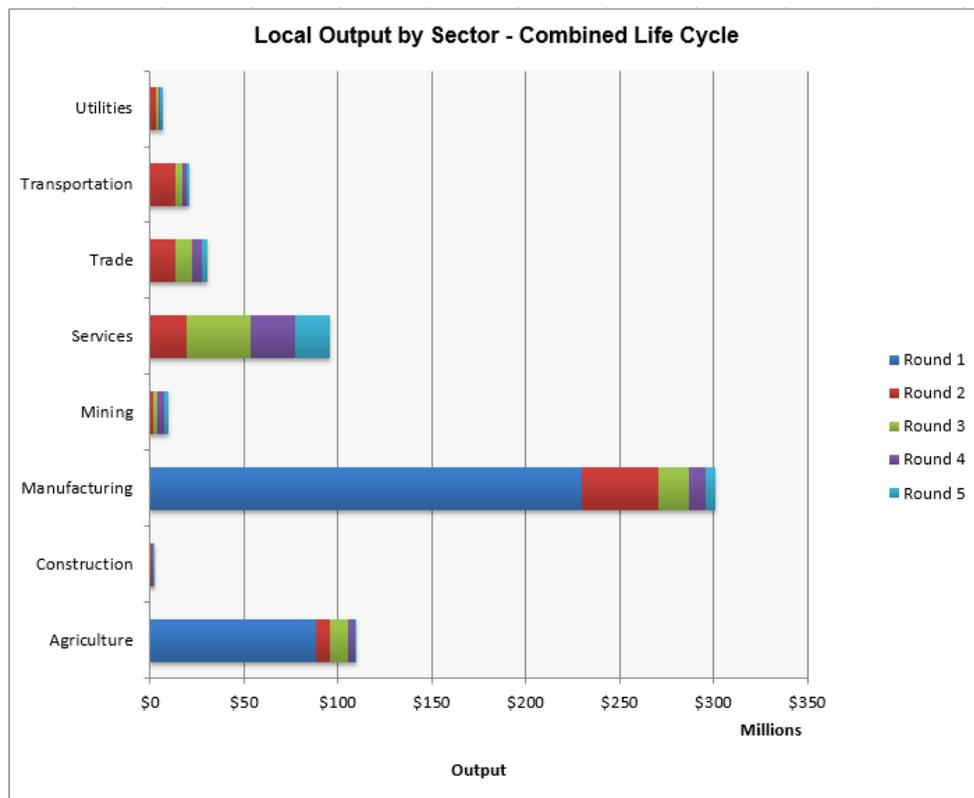
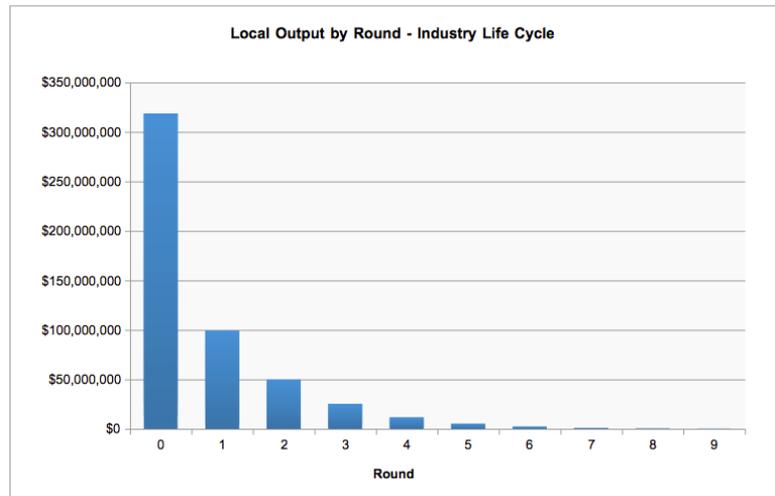


### Statement of workforce employment by occupation requirements

Workforce Employment	Current Local Employment	Local Employment - Industry LC	Local Employment - Combined LC
<b>Occupation Requirements (Education - Experience - OTJ Training)</b>			
<b>Associate's degree -- Total</b>	<b>8119</b>	<b>24.8</b>	<b>71.68</b>
<b>Bachelor's degree -- Total</b>	<b>22531</b>	<b>205.16</b>	<b>347.18</b>
<b>Doctoral or professional degree -- Total</b>	<b>4086</b>	<b>8.46</b>	<b>32.73</b>
High school diploma or equivalent - 5 years or more - Long-term on-the-job training	5	0	0.11
High school diploma or equivalent - 5 years or more - Moderate-term on-the-job training	44	0.22	0.4
High school diploma or equivalent - 5 years or more - None	1938	224.56	234.22
High school diploma or equivalent - Less than 5 years - Long-term on-the-job training	5	0.04	0.05
High school diploma or equivalent - Less than 5 years - Moderate-term on-the-job training	375	4.66	6.46
High school diploma or equivalent - Less than 5 years - None	9388	85.75	162.02
High school diploma or equivalent - Less than 5 years - Short-term on-the-job training	0	0.16	0.16
High school diploma or equivalent - None - Apprenticeship	3114	11.28	17.51
High school diploma or equivalent - None - Long-term on-the-job training	9021	120.45	180.9
High school diploma or equivalent - None - Moderate-term on-the-job training	28497	435.2	552.22
High school diploma or equivalent - None - None	1379	8.52	17.7
High school diploma or equivalent - None - Short-term on-the-job training	26789	236.88	425.75
<b>High school diploma or equivalent -- Total</b>	<b>80555</b>	<b>1127.72</b>	<b>1597.5</b>
Less than high school - Less than 5 years - Moderate-term on-the-job training	2739	6.67	32.69
Less than high school - Less than 5 years - Short-term on-the-job training	0	0	0
Less than high school - None - Long-term on-the-job training	526	26.5	29.98
Less than high school - None - Moderate-term on-the-job training	1632	58.39	66.15
Less than high school - None - None	986	2.31	11.63
Less than high school - None - Short-term on-the-job training	54674	1445.63	1844.01
<b>Less than high school -- Total</b>	<b>60557</b>	<b>1539.5</b>	<b>1984.46</b>
<b>Master's degree -- Total</b>	<b>2443</b>	<b>0.86</b>	<b>14.23</b>
<b>Postsecondary non-degree award -- Total</b>	<b>13719</b>	<b>156.59</b>	<b>230.75</b>
<b>Some college, no degree -- Total</b>	<b>1089</b>	<b>7.14</b>	<b>16.07</b>
<b>Grand Total</b>	<b>193099</b>	<b>3070.23</b>	<b>4294.6</b>

## Industry Contribution

Most of the economic contribution is concentrated in the manufacturing, agriculture, and services sectors. The chart below shows the contribution by sector for the first five rounds round back through the supply chain and forward through the spending of household earnings. In most cases, these first five rounds capture almost all of the impact. The chart to the right shows the contribution decay by round. In this specific case, regional output decays substantially after the initial direct contribution since poultry and egg production -- normally a first round contribution back through the supply chain for poultry processing -- is included as a direct contribution for the vertically-integrated poultry industry.



The tables below list the industries that contribute at least \$2 million to gross regional product and \$1 million to earnings. In addition to the poultry industry, the lists include supply chain industries such as energy, transportation, and wholesale trade, and consumer industries that serve workers such as health care, housing, retail, and restaurants.

**List of projected contribution to gross regional product, by industry**

Sector	Industry	Value Added - Combined LC
Manufacturing - Food and beverage and tobacco products	Poultry processing	\$40,612,807
Agriculture, forestry, fishing, and hunting	Poultry and egg production	\$22,663,656
Wholesale and retail trade	Wholesale trade	\$17,856,682
Finance, insurance, real estate, leasing	Housing	\$13,425,829
Professional and business services	Management of companies and enterprises	\$7,604,780
Mining	Oil and gas extraction	\$7,195,628
Transportation and warehousing	Truck transportation	\$6,515,419
Finance, insurance, real estate, leasing	Monetary authorities and depository credit intermediation	\$4,568,017
Finance, insurance, real estate, leasing	Insurance carriers	\$4,238,633
Wholesale and retail trade	Other retail	\$4,199,476
Finance, insurance, real estate, leasing	Other real estate	\$3,067,459
Educational services, health care, and social assistance	Hospitals	\$2,897,442
Utilities	Electric power generation, transmission, and distribution	\$2,867,055
Manufacturing - Petroleum and coal products	Petroleum refineries	\$2,591,700
Professional and business services	Legal services	\$2,554,314
Manufacturing - Food and beverage and tobacco products	Other animal food manufacturing	\$2,327,913
Agriculture, forestry, fishing, and hunting	Beef cattle ranching and farming, including feedlots and other animal raising	\$2,275,626
Manufacturing - Food and beverage and tobacco products	Animal (except poultry) slaughtering, rendering, and processing	\$2,231,704
Educational services, health care, and social assistance	Offices of physicians	\$2,180,845
Arts, entertainment, recreation, accommodation, and food services	Limited-service restaurants	\$2,008,617

**List of projected contribution to earnings, by industry**

Sector	Industry	Employee Compensation - Combined LC
Manufacturing - Food and beverage and tobacco products	Poultry processing	\$35,808,845
Wholesale and retail trade	Wholesale trade	\$8,457,670
Professional and business services	Management of companies and enterprises	\$6,410,595
Agriculture, forestry, fishing, and hunting	Poultry and egg production	\$4,453,672
Transportation and warehousing	Truck transportation	\$4,074,902
Educational services, health care, and social assistance	Hospitals	\$2,657,131
Wholesale and retail trade	Other retail	\$2,258,491
Educational services, health care, and social assistance	Offices of physicians	\$1,909,751
Finance, insurance, real estate, leasing	Monetary authorities and depository credit intermediation	\$1,830,907
Finance, insurance, real estate, leasing	Insurance carriers	\$1,787,549
Finance, insurance, real estate, leasing	Securities and commodity contracts intermediation and brokerage services	\$1,674,637
Manufacturing - Food and beverage and tobacco products	Animal (except poultry) slaughtering, rendering, and processing	\$1,392,681
Professional and business services	Legal services	\$1,303,524
Finance, insurance, real estate, leasing	Nondepository credit intermediation and related activities	\$1,288,315
Agriculture, forestry, fishing, and hunting	Support activities for agriculture and forestry	\$1,243,338
Manufacturing - Food and beverage and tobacco products	Other animal food manufacturing	\$1,238,706
Arts, entertainment, recreation, accommodation, and food services	Limited-service restaurants	\$1,202,169
Professional and business services	Employment services	\$1,174,111
Professional and business services	Accounting, tax preparation, bookkeeping, and payroll services	\$1,163,874
Arts, entertainment, recreation, accommodation, and food services	Full-service restaurants	\$1,089,200
Other services, except government	Automotive repair and maintenance	\$1,014,474

## Regional System Contribution

The vertically-integrated poultry industry including its supply chain contributes about 1.1% of the total industry output in the region. This contribution includes economic activity that supports resilience, regeneration, and occupational variety in the regional system.

Resilience capacity helps the local economy recover from disasters, regeneration capacity helps the local economy sustain itself, and occupational variety helps sustain the local labor market as more young people can find work locally that matches their interests.

In industries that play a resilience role -- such as energy, food, and transportation -- the poultry industry and its supply chain contribute a projected \$453.6 million in output. The list below includes industries that support resilience of the regional economy and that have projected output of \$1 million or more due to the poultry industry activity. The poultry industry and its supply chain also contribute a projected \$430.5 million in output in industries that play a regeneration role, and a projected 151 jobs in occupations that are under-represented in the local economy. These jobs are mostly in the Support Activities for Agriculture and Management of Companies industries.

### List of largest projected output contributions in industries that play a resilience role

Industry	Local Production - Industry LC
Poultry processing	\$225,266,256
Poultry and egg production	\$88,578,000
Wholesale trade	\$20,020,592
Other animal food manufacturing	\$17,191,699
Truck transportation	\$13,693,373
Animal (except poultry) slaughtering, rendering, and processing	\$12,341,748
Grain farming	\$8,750,608
Oil and gas extraction	\$7,196,284
Petroleum refineries	\$7,051,892
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	\$6,463,752
Monetary authorities and depository credit intermediation	\$3,846,573
Electric power generation, transmission, and distribution	\$2,663,578
Animal production, except cattle and poultry and eggs	\$2,603,320
Insurance carriers	\$2,503,632
Rail transportation	\$2,417,752
Coal mining	\$2,299,096
Natural gas distribution	\$2,141,528
Support activities for agriculture and forestry	\$2,097,852
Plastics material and resin manufacturing	\$2,077,381
Nonresidential maintenance and repair	\$1,856,298
Other basic organic chemical manufacturing	\$1,205,180
Couriers and messengers	\$1,190,935
Architectural, engineering, and related services	\$1,185,393
Scenic and sightseeing transportation and support activities for transportation	\$1,126,350
Air transportation	\$1,112,792
Waste management and remediation services	\$1,057,214

## Preparer's Notes

The region currently has some vertically integrated poultry production and processing activities that contribute to the overall output and health of the regional economic system. The level of contribution, at over one percent, is significant enough that a decline in the industry would require short-term labor adjustments, especially among workers who have a high school diploma or less.

The enclosed workbook **dcg20180813141834857603.xlsx** accompanies this brief. See this workbook for more details, as only selected worksheets have been presented. The workbook also contains definitions for life cycle accounting terms used in this brief.