4 The Food Supply Chain in the Regional Economy

The food supply chain stretches across many industry sectors and encompasses numerous services.

In the food supply chain, food moves from producer to consumer via the processes of production, processing, distribution, retailing and consumption; thus, food moves from farmer to consumer. [1]

The local food supply chain includes specialized services such as: accountants, attorneys, veterinarians, farm management companies, software developers, refrigeration companies, and fleets. There are about 14,000 businesses in the food supply chain in Southwestern Pennsylvania employing 85,000 workers.

The following charts show the scope of the businesses and employment in the food supply chain in Southwestern Pennsylvania. Figure 4-1 shows how a food dollar is divided across the supply chain.

[1] http://www.chgeharvard.org/sites/default/files/lesson-plan-files/lesson_4.pdf

Supply Chain Costs Distributed Per Dollar

How are the costs of each industry group distributed among primary factors?

Figure 4-1	Primary Factors				
Industry Group	Total	Imports	Output Taxes	Property Income	Salary & Benefits
All industries	100¢	6.4¢	8.9¢	35.8¢	48.9¢
Agribusiness	2.4¢	0.5¢	0.1¢	1.1¢	0.6¢
Farm production	9.7¢	0.9¢	0.2¢	7¢	1.7¢
Food processing	15.8¢	0.9¢	1¢	6¢	7.9¢
Packaging	2.7¢	0.8¢	0.1¢	0.7¢	1.1¢
Transportation	3.3¢	0.2¢	0.1¢	1.2¢	1.9¢
Wholesale trade	9.3¢	-0.1¢	1.6¢	3.1¢	4.7¢
Retail trade	13¢	0.3¢	2.2¢	3.6¢	7¢
Foodservices	31.1¢	0.6¢	3.1¢	7.9¢	19.5¢
Energy	5.6¢	2¢	0.5¢	2.2¢	1¢
Finance & Insurance	3.3¢	0.2¢	0.2¢	1.2¢	1.8¢
Advertising	2.5¢	0.2¢	0.1¢	1.1¢	1.1¢
Legal & accounting	1.3¢	0¢	0.1¢	0.5¢	0.7¢

Values may not sum to totals due to rounding
Source: ERS/USDA

This table is a cross-tabulation of industry group value added (costs) by primary factors of production.

Supply Chain Business Locations in the Region

The supply chain chart created by the US Department of Agriculture shows how a dollar spent on food is distributed along the supply chain. Producers and agri-business earn about 12 cents of each dollar spent on food. The other 89% is spread across other activities in the food supply chain. For example, food processing earns 15.8 cents of the every dollar spent on food. Many food–related businesses in our region are increasing earnings by increasing their presence in the supply chain. They incorporate more activities, like processing, into their operations (Figure 4-2).

Figure 4-2

Supply Chain Business Locations within the Region

NUMBER OF SITES by 4-digit NAICS and Pittsburgh/county

4-digit Primary NAICS	Description of 4-digit NAICS code*	Allegheny	Pittsburgh City	Allegheny inc Pittsburgh	Armstrong	Beaver	Butler	Fayette	Greene	Indiana	Lawrence	Washington	Westmoreland	Total
1131	Timber Tract Operations			0				1	1		1			3
1132	Forest Nurseries and Gathering of Forest Products	1	1	2				1				1		4
1133	Logging	2		2	4	2	5	8	2	5	6	4	3	41
1142	Hunting and Trapping	3	1	4					1			2	2	9
1151	Support Activities for Crop Production	7	1	8		1	4	4			1	2	2	22
1152	Support Activities for Animal Production	24	3	27	1	1	6	3	2	3	3	11	5	62
1153	Support Activities for Forestry	2	2	4							1	3	2	10
3119	Other Food Manufacturing	11	5	16		1	7			1	1	1	6	33
3121	Beverage Manufacturing	13	5	18	2	2	9	3		3		3	15	55
3331	Agriculture, Construction, and Mining Machinery Manufacturing	2		2					1		1		2	6
3332	Industrial Machinery Manufacturing	4		4		1					1			6
3352	Household Appliance Manufacturing	2		2										2
4238	Machinery, Equipment, and Supplies Merchant Wholesalers	15	1	16	2	3	10	3	1	2		4	9	50
4244	Grocery and Related Product Merchant Wholesalers	200	72	272	4	25	39	20	5	6	18	52	75	516
4245	Farm Product Raw Material Merchant Wholesalers	20	9	29	7	3	14	8	4	5	5	12	21	108
4248	Beer, Wine, and Distilled Alcoholic Beverage Merchant Wholesalers	35	14	49	5	6	5	7	2	3	7	9	17	110
4249	Miscellaneous Nondurable Goods Merchant Wholesalers	21	10	31	7	3	21	4	2	5	5	15	13	106
4442	Lawn and Garden Equipment and Supplies Stores	61	6	67	7	11	19	9	1	6	5	13	27	165
4451	Grocery Stores	448	223	671	39	89	106	91	22	49	61	104	174	1,406
4452	Specialty Food Stores	201	101	302	14	31	54	28	10	14	22	46	78	599
4453	Beer, Wine, and Liquor Stores	136	37	173	8	18	28	18	4	11	12	30	48	350
4461	Health and Personal Care Stores	104	29	133	9	15	24	13	2	10	8	22	33	269
4521	Department Stores	88	15	103	2	15	18	9	1	8	7	12	36	211
4529	Other General Merchandise Stores	115	26	141	11	25	23	22	8	15	14	22	51	332
4542	Vending Machine Operators	61	15	76		8	11	8	3	3	3	14	34	160
4931	Warehousing and Storage	3	3	6		1	1			2				10
5621	Waste Collection	6	2	8	2	1	2	2	2	2		2	9	30
5629	Remediation and Other Waste Management Services	35	13	48	2	3	8	3		5	4	12	10	95
6242	Community Food and Housing, and Emergency and Other Relief Services	7	3	10			1	1				1	4	17
7211	Traveler Accommodation	190	66	256	8	22	34	34	8	17	20	49	70	518
7213	Rooming and Boarding Houses	3	5	8	5		2			8		1	3	27
7221	Full-Service Restaurants	509	272	781	26	69	75	60	15	42	33	90	166	1,357
7222	Limited-Service Eating Places	558	228	786	28	98	86	62	16	43	49	121	218	1,507
7223	Special Food Services	81	29	110	5	17	14	13	1	9	5	13	25	212
7224	Drinking Places (Alcoholic Beverages)	373	211	584	35	77	47	68	11	27	21	81	127	1,078
8133	Social Advocacy Organizations	81	103	184	11	19	12	13	7	7	6	29	23	311
8134	Civic and Social Organizations	832	1,821	2,653	61	124	91	95	31	81	50	214	337	3,737
8139	Business, Professional, Labor, Political, and Similar Organizations	87	44	131	7	10	7	9	8	6	5	25	30	238
Total		4,341	3,376	7,717	312	701	783	620	171	398	375	1,020	1,675	13,772

Source: Dunn & Bradstreet Data

Food Service

The International Foodservice Distributors Association (IFDA) is a professional association serving the food distribution industry. According to IFDA, the national industry "includes more than 15,000 companies operating warehouses and transportation fleets. A typical broadline foodservice distributor may serve anywhere from 1,000 to 6,000 accounts from a single distribution center and offer their customers more than 10,000 items to meet specific operator needs. In 2014, estimated distributor annual sales in North America exceeded $235 billion".[8] It will remain the nation's second largest private employer. A survey completed by the American Customer Service Index (June17, 2014) [9] found that "the average American went to a fast-food chain or restaurant four times per week last year, a 60 percent increase since the end of the Great Recession." Sales are expected to continue to grow.

Food service employment figures for our region show 2,864 restaurants and eating places employing 59,286 people.

Three of the top five trends for restaurants in 2014 were locally sourced meat, locally grown produce and environmental sustainability.[10]

"modern food markets are responding to consumer preferences at a local level, even as the food industry becomes more global. " New Directions in Global Food Markets / AIB-794 Economic Research Service/USDA

Top Trends for 2014

(from the National Restaurant Association)

1. Locally sourced meats and seafood
2. Locally grown produce
3. Environmental sustainability
4. Healthful kids' meals
5. Gluten-free cuisine
6. Hyper-local sourcing (e.g., restaurant-gardens)
7. Children's nutrition
8. Non-wheatnoodles/pasta (e.g., quinoa, rice, buckwheat)
9. Sustainable seafood
10. Farm/estate branded items

National Restaurant Association, 2015

http://www.restaurant.org/Downloads/PDFs/News-Research/research/ForecastExecSummary2015-FINAL.pdf

Trends in the Food Industry

Looking forward, several sources have identified major trends in the food industry that will impact the industry and companies in Southwestern Pennsylvania.

A summary of changing trends in consumer behavior includes:

- ✓ Increasing consumer demand for locally produced foods.
- ✓ Increasing consumer interest in and demand for organic foods.
- ✓ Growing number of food producers using non-traditional methods. to sell directly to consumers or end customers.
- ✓ Consumer interest in grass-fed livestock.
- ✓ Expanding Interest in sustainable farming practices.
- ✓ Increasing use of processed foods that offer convenience.

[8] http://nrn.com/latest-headlines/nra-foodservice-sales-hit-record-660b-2013
[9] American Customer Index Service, June 2014
[10] Op cit

Beverage Enterprises

Approximately 1,000 people are employed at 55 locations across the region in beverage manufacturing. One hundred ten beverage wholesalers employ an additional 1039 workers. Specialty retail outlets employ 1565 in 350 stores across the region.

In the spring, local craft beers are celebrated with Craft Beer Week in Pittsburgh. Approximately 25 wineries add flavor to this sector of the local supply chain. The region celebrates Pennsylvania wines with a weekend event in August.[11] Three distilleries operate in the region.[12]

"Crafting local beers and spirits has grown in Pennsylvania, as it has in other Appalachian states. In Pittsburgh, an artisan whiskey distillery opened in 2011, named Wigle Whiskey for one of two men convicted of treason and sentenced to hang for his role in the Whiskey Rebellion of 1794. A similar venture in the area is Pennsylvania Pure Distilleries which makes Boyd & Blair vodka in Glenshaw. Pennsylvania also boasts significant wine production, producing over 195,000 gallons annually, making Pennsylvania the fourth largest wine growing state in the country."

Assessing the Landscape of Local Food In Appalachia, The Appalachian Regional Commission,
Jean Haskell,Ph.D., 2012, p.64

Waste Collection and Remediation

The region has 40 sites employing 125 people that collect and/or remediate waste. Two businesses, AgRecycle and the Neshannock Soil Builders Cooperative, deal specifically with food waste by collecting food waste and processing it into compost.

The Local Food Value Chain

The local food supply chain in the SPC region encompasses a large number of businesses employing over 184,000 people. However, when people in the region discuss local food, they usually mean local producers, retail establishments, distributors, etc. A 2012 US Department of Agriculture report describes a local food value chain as "the establishment of strong relationships between the different actors involved in growing/raising crops; processing crops; and marketing food to retailers, institutions, restaurants, and other food buyers. The phrases 'values based value chains' and 'food value chains' refer to emergent supply chains emphasizing vertical coordination rather than integration throughout the supply chain." [13]

Distinguishing Features of the Local Food Value Chain

A recent report from the USDA Economic Research Service [14] compared the performance and size of local and mainstream value chains. The authors found that "[l]ocal foods are increasingly

[11] Directory of Wineries Touring Guide, 2015
http://www.pennsylvaniawine.com/sites/all/assets/PAWineGuide_WebVersionPDF.pdf
[12] Pennsylvania Distillers, August 2015, http: www. bottlesociety.com/states/PA
[13] Moving Food Along the Value Chain: Innovations in Regional Food Distribution, Marketing Services Division, United States Department of Agriculture, March 2012, p.3
[14] Comparing the Structure, Size, and Performance of Local and Mainstream Food Supply Chains, ERS, USDA, June 2010, www.ers.usda.gov

incorporated in programs designed to reduce food insecurity, support small farmers and rural economies, encourage more healthful eating habits, and foster closer connections between farmers and consumers."

According to the report, while local value chains move a fairly small portion of total product demand, they can offer unique market niche as a differentiated product.

Findings for Local Food Value Chains

1. A common feature among farms that participate in local food value chains is a diverse portfolio of products and market outlets.
2. Local supply-and-demand relationships and product differentiation based on attributes other than local origin, such as organic or grass-fed production, appear to be the primary influences on prices in local value chains.
3. Nearly all wage and proprietor income in the local supply chains is retained locally, but local areas also retain a large share of wage and proprietor income from the mainstream value chains.
4. Producers receive a greater share of retail prices in local food value chains than they do in mainstream chains. [15]

Penn's Corner Farm Alliance is a farmer-owned cooperative in Southwestern Pennsylvania. A group of more than 30 member farms delivers fruits, vegetables, and other farm foods to customers in the Pittsburgh area through Community Supported Agriculture subscriptions, online Farm Stands and wholesale restaurant deliveries.

www.pennscorner.com

Direct Marketing to End Users

According to the USDA National Agricultural Statistics Service, direct marketing of all types was worth $1.2 billion in 2007, having grown 105 percent in value from 1997 to 2007, compared to a 48-percent increase in total farm sales for the same period (Diamond & Soto, 2009)." Local producers have several options to choose from to market their locally grown products.

Businesses and producers in the region have successfully developed direct marketing opportunities to help smaller local food producers to participate more fully in the supply chain. "USDA's National Farmers Market Directory now lists 8,268 markets, an increase of 76 percent since 2008. The data reflects continued demand and growth of farmers markets in every region of the country."[16] One hundred seventy-five farmers markets in the SPC region promote direct retails sales. Farmers markets are very popular in local communities where they offer connection and a sense of community in addition to locally grown products. During summer months, farm stands and markets are found throughout the rural areas of the region.

Community Supported Agriculture (CSA), is a venture where customers in the community contract with producers for a share of the harvest and pay for it in advance of receiving the product. Products are delivered throughout the growing season. Generally, customers receive fixed

[15] Excerpts, Op cit, p v
[16] USDA Press Release, 8/5/14

amounts on a set schedule; however, if nature does not cooperate, then the shares and products returned to the customer may be smaller than planned. In this model, the customer shares the risk with the producer. There are 26 CSAs located in the region. Generally organized by producers, CSAs are popular in many areas across the country but are not as prevalent in Southwestern Pennsylvania as elsewhere.

Producers are successfully using marketing cooperatives in the SPC region to boost return to producers. These cooperatives jointly market their products to restaurants and individual households. Privately-operated produce auctions are held at several locations in the region and offer another opportunity for producer to sell directly to consumers.

The Pennsylvania Department of Agriculture maintains a website to connect wholesale buyers and sellers. Wholesale produce buyers who want a whole truckload or a few cases of Pennsylvania vegetables can ordinarily use the Pennsylvania Department of Agriculture's online searchable directory of wholesale growers. Producers in all ten counties in the SPC region are represented on the website.

A number of counties in the SPC region have used agri-tourism as a means to increase direct sales and farm income. Local groups organize "open farms" and invite the public to tour and visit the farms. Local produce and products are sold during the visits. The farms' day tours have been very popular but require special preparatory work by the hosting farms.