Economic Impact of Localizing Detroit's Food System

By Michael H. Shuman[1]

OVERVIEW: What would be the economic impact of encouraging residents in and around Detroit to purchase more local food and beverages? In a word – *major*. Table 1 shows the details.

Just in the city of Detroit, shifting twenty percent of food spending would increase annual output by nearly half a billion dollars. More than 4,700 jobs would be created, paying $125 million more in earnings. The city would receive nearly $20 million more in business taxes each year.

Were this spending shift to occur in the five counties surrounding Detroit – Macomb, Monroe, Oakland, Wayne, and Washtenaw – the increase in regional output would be roughly $3.5 billion. Nearly 36,000 jobs in the region would be created, paying $900 million more in earnings. Government entities in the region would receive $155 million more in business taxes.

Table 1: Impact of a 20% Shift in Food Spending in Detroit and in 5 Surrounding Counties

	5-Counties	Detroit City
Increased Output	$3,497,345,774	$483,125,887
Increased Earnings	$903,072,340	$124,754,720
Increased Business Taxes	$155,066,177	$19,632,494
Increased Jobs	35,882	4,719

The *2005 American Community Survey* (factfinder.census.gov) puts these numbers in perspective, stating the unemployment rate in Detroit for working adults ages 16 and older is 20.5%. Put another way, of 606,790 people ages 16 and older living in Detroit, approximately 350,000 are in the labor force. Of these, nearly 72,000 are unemployed. Encouraging more local food and beverage purchases within Detroit's food system could reduce employment by 6.5%. If a regional effort to localize food purchases focused on the city of Detroit, then its unemployment rate could be cut in half.

Detroit has 311,545 households. Localizing Detroit's food system would increase average earnings per household by $400 per annum. A regional effort to localize food purchases focused on the city of Detroit would increase average household earnings by about $2,900.

METHODOLOGY: The calculations for the 5-county region and for the city of Detroit were produced as follows:

(1) *Income Distribution* – Found in the *2005 American Community Survey* (factfinder.census.gov). See Table 2.

(2) *Food Expenditures* – Found in the *Consumer Expenditure Survey*. A "consumer unit" is roughly equivalent to a "household." Expenditure categories were adjusted to fit income categories for households in step #1 and then multiplied by the level of households. See Table 3.

(3) *Multipliers* – Twenty percent of each local expenditure was then modeled using 2005 data in sthe Minnesota IMPLAN Model. This economic modeling system, shows the overall impact of designated "events" on final output, earnings, taxes, and employment. Inherent limitations of the model meant that some events had to be simplified, as described in the next section.

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Table 2: Income Distribution for Households

	Macomb	Monroe	Oakland	Washtenaw	Wayne	TOTAL	Detroit
Less than $10,000	20,301	3,045	25,565	12,208	95,008	156,127	65,359
$10,000 -$14,999	16,699	2,987	19,294	6,957	48,609	94,546	26,766
$15,000 -$24,999	33,071	6,735	40,518	14,177	92,798	187,300	49,797
$25,000 -$34,999	36,346	6,794	43,412	11,683	86,906	185,141	41,705
$35,000 -$49,999	47,806	6,560	59,812	16,802	105,319	236,299	42,950
$50,000 -$74,999	69,744	12,826	86,824	23,628	134,779	327,802	48,553
$75,000 -$99,999	48,788	10,015	67,048	15,621	76,595	218,067	20,541
$100,000 -$149,999	40,602	6,911	78,624	16,802	64,812	207,751	11,827
$150,000 -$199,999	9,496	1,523	31,353	7,351	17,676	67,399	2,490
$200,000 or more	4,912	1,171	30,389	6,170	12,520	55,161	1,556
TOTALS	327,765	58,567	482,840	131,399	735,022	1,735,594	311,545

An increased expenditure on local hamburger could be modeled as increased spending at a local fast food restaurant, increased spending at a supermarket, increased hamburger processing, or increased cattle raising. To avoid double counting for each food expenditure, only one localizing purchase event was chosen -- if possible, high value-added production rather than low value-added retail.

The following events were modeled:

- More local production of dry goods, dairy, processed fruits and vegetables, sugars and sweets, fats, oils, and all kinds of beverages.
- More local processing of beef, pork, other meat, chicken, and fish.
- More local production of eggs.
- More local growing of fruits and vegetables.
- More local restaurant spending.

Table 3: Food Expenditures for 5-County Region

	5-Counties	Detroit
ALL FOOD	$10,799,657,991	$1,528,685,112
FOOD AT HOME	$5,922,220,561	$881,730,217
Cereal & Bakery Products	$798,373,127	$119,339,752
•Cerals & Cereal Products	$256,183,626	$38,487,632
•Bakery Products	$542,176,660	$80,881,127
Meats, Poultry, Fish, Eggs	$1,368,708,305	$206,785,301
•Beef	$407,757,456	$60,554,807
•Pork	$271,921,809	$42,727,697
•Other Meats	$184,881,067	$27,926,031
•Poultry	$240,279,923	$36,750,137
•Fish & Seafoods	$205,725,628	$29,435,267
•Eggs	$57,229,706	$9,261,826
Dairy Products	$678,429,920	$101,207,570
•Fresh Milk & Cream	$259,632,294	$40,513,517
•Other Dairy Products	$418,440,069	$60,613,133
Fruits & Vegetables	$992,395,752	$146,631,052
•Fresh Fruits	$327,978,625	$47,861,316
•Fresh Vegetables	$315,248,272	$46,220,116
•Processed Fruits	$189,935,894	$28,306,172
•Processed Vegetables	$158,604,515	$24,209,150
Other Food at Home	$2,083,645,882	$307,614,722
•Sugar & Other Sweets	$213,137,512	$31,641,854
•Fats & Oils	$150,864,530	$23,288,582
•Misc. Foods	$1,097,242,689	$160,477,604
•Nonalcoholic Beverages	$542,761,646	$82,322,887
•Food Prepared on Trips	$77,527,668	$9,215,390
FOOD AWAY FROM HOME	$4,877,007,669	$646,914,933
ALCOHOLIC BEVERAGES	$787,175,707	$104,777,798

CONSERVATISMS: These calculations likely understate the potential impacts of localizing food expenditures, for the following reasons:

- If multiple events had been specified for each category of food expenditure, the impacts would be greater.
- The IMPLAN model shows a typical purchase at an entity within the region, but has no data about the ownership of businesses. A number of studies have shown that a dollar spent at a *locally owned business* within a region, like a restaurant, can generate two to four times the multiplier benefit of an entity that is not locally owned.
- Other expenditures related to food and farming systems were not included, including wood, wood products, furniture, biofuels, biochemicals, leather, leather products, shoes, fiber, and apparel.

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