THINKING ABOUT THE ECONOMIC IMPACTS OF LOCAL FOOD SYSTEMS

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Thinking About the Economic Impacts of Local Food Systems

I. The difficulty in defining local food systems
II. What data is available?
III. How could we start to use this data?
IV. Economic impact vs. growth vs. development
V. How do we measure the impact of businesses in the local food system?
VI. What is a multiplier and how is it related to local food systems?
Local foods initiatives are diverse and work in many different aspects of the food system.
Local foods initiatives may have multiple goals

- improved nutrition-health and diet related disease
- environmental sustainability
- transparency and food safety
- food quality
- social justice
- social capital or relationship building
- rural or agricultural revitalization
- community economic growth and development
Defining Local Food Systems

The rationale offered to support the community economic development argument ranges from

- shorter supply chains resulting in higher margins (higher profits)
- the ability to charge premiums (higher prices)
- more profits retained in the local economy (Goldschmidt hypothesis).
Defining Local Food Systems

There is no universally accepted definition for “local”

- consumer or intermediated consumer perspective (Dunne, 2010, Zapeda, 2006).
- geo-political boundaries - states (Darby, 2008)
- local ownership of farm (Low, 2011)
- relationship to place (Marsden, 2000)
- production techniques used
- marketing channels used (Low, 2011)
- size/scale (Low, 2011)
- products (commodity versus non commodity crops)
- quality relationships /supply chain (Marsden, 2000, King, 2010)
- integration of supply chain (Marsden, 2000)
Before we measure anything..

- What is the question?
- What information do we need to answer the question?
- Who will use this information?
- How will they use it?
- When is it needed?
- How will we do it?

“Planning and Program Evaluation Worksheet.” University of Wisconsin-Extension • Cooperative Extension • Program Development & Evaluation UW-Extension http://www.uwex.edu/ces/pdande
He uses statistics as a drunken man uses lamp-posts for support rather than illumination

Andrew Lang (1844-1912)
What Data is Available

- US Agricultural Census
  - Percent of farms with direct sales for human consumption, 2007 and 2002
  - Value of agricultural products sold directly to individuals for human consumption 2007 and 2002
  - Percent of farms with value added commodities, 2007
  - Percent of farms with agri-tourism or recreational services, 2007 and 2002
  - Income From Farm-Related Sources: 2007 and 2002 including agri-tourism and recreation
  - Percent of farms using Community Supported Agriculture, 2007 and 2002

- USDA Farmers Market Database
Horticulture contributes to Walworth County diversity
Walworth County sales of Christmas trees, fruits and vegetables, greenhouse, nursery and floriculture products add up to $6.5 million. Landscape, grounds maintenance and tree-care businesses create additional full-time jobs and many seasonal jobs.

Direct-marketing sales add $829,000 to economy
More and more Walworth County farmers sell directly to consumers through roadside stands, farmers’ markets, auctions, pick-your-own operations and community supported agriculture (CSA). In all, 87 farmers generate $829,000 in direct marketing sales.

Farmers are stewards of 61% of the county’s land
Walworth County farmers own and manage 217,393 acres, or 61 percent, of the county’s land. This includes cropland, pasture, tree farms, farm forests and wetlands. As stewards of the land, farmers use conservation practices, such as crop rotation, nutrient management and integrated pest management, to protect environmental resources and provide habitat for wildlife.

Walworth County Agriculture: Value & Economic Impact
Agriculture works hard for Walworth County every day. Family-owned farms, food processors and agriculture-related businesses generate thousands of jobs and millions of dollars of economic activity while contributing to local income and tax revenues.

Although the population of Walworth County has increased by 25 percent in the past decade, over 60 percent of the county is still farmland. As one of the state’s top tourist destinations, the pastoral landscape is a valuable asset to the county.

Agriculture in the county is extremely diverse and in addition to production grain and dairy, includes a wide range of livestock and horticultural crops. The direct marketing of vegetables, meat and poultry, cheese, and fruits is a rapidly growing segment of county agriculture.

How important is agriculture?
- Agriculture provides 3,780 jobs in Walworth County.
- Agriculture accounts for $599 million in business sales.
- Agriculture contributes $208 million to county income.
- Agriculture pays over $17 million in taxes.

Who owns the farms?
- 76.4% individuals or families
- 3.5% non-family corporations and other
- 10.4% family partnerships
- 9.7% family corporations
Walworth County

- Agriculture provides 3,780 jobs
- 76.4% are family owned
- 9% of farms sell direct to consumers (WI 8%, US 6%)
- Percent of farms direct marketing declined since 2002
- Value of products sold direct to consumers declined 30% since 2002
- 2.8% of farms produced value-added products (WI 3.6%, US 3.6%)
- 1% of farms marketed products through CSA
- Percent of farms involved in agri-tourism and recreational activities declined since 2002

What does this say about our local food system?
What questions does this data bring up?
Marketing and Distribution - Direct Sales

Figure 1
Direct-sales farms and direct sales of local foods, 1978-2007

Thousand farms

Farms selling local foods directly to consumers

Million dollars (constant 2007)

Direct sales of local foods

Census year


Note: Inflation adjusted sales were calculated based on the gross domestic product implicit price deflator published by the Bureau of Economic Analysis, U.S. Department of Commerce and calibrated to 2007=100.
What we don’t know...

“...little historic data exists regarding sales by local food farms beyond direct marketing channels. Inter-mediated sales, which may account for significantly more local food sales than direct to consumer sales alone, was not collected until 2008 when it was included in the Agricultural Resource Management Survey.” (Low and Vogel, 2011)

Direct Sales (2007): $1.2 billion
Inter-mediated Sales (2008): $4.8 billion
Low and Vogel (2011) also find that the direct-to-consumer market is dominated by smaller farms (less than $50,000 in sales) while the intermediated market is dominated by larger farms (more than $250,000 in sales).
Economic Impact vs. Growth vs. Development

- **Economic impact** is a **static** concept. (with and without)

- **Growth and Development** are **dynamic** concepts.
Economic Impact vs. Growth vs. Development

The growth rate is 2% prior to the event and is then 3% after the event.

The “impact” of the event is said to be 1%. 
### Economic Impact vs. Growth vs. Development

<table>
<thead>
<tr>
<th>Growth</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>• more jobs</td>
<td>• quality of life</td>
</tr>
<tr>
<td>• more businesses</td>
<td>• economic security</td>
</tr>
<tr>
<td>• more residents</td>
<td>• economic opportunities</td>
</tr>
<tr>
<td>• more tax base</td>
<td>• balanced growth</td>
</tr>
<tr>
<td>• more, more, more…</td>
<td></td>
</tr>
</tbody>
</table>
Economic Impact vs. Growth vs. Development

Before “event” economic activity equal to $P_1 \times Q_1$

The “event” occurs and now economic activity is equal to $P_2 \times Q_2$.

Economic impact is equal to $P_2 \times Q_2 - P_1 \times Q_2$
How do we measure the impact of businesses in the local food system?

To assess the economic **impact** of local foods systems we need data on how demand has changed.

- **New demand** for products of local farmers
- **Lost demand** for current suppliers of those products

For example, I join a local CSA for fresh produce and I buy less produce at the local grocery store.
How do we measure the impact of businesses in the local food system?

I am substituting one type of expenditures for another type….

what is the net impact?
But first, what is a multiplier?

<table>
<thead>
<tr>
<th>Initial impact:</th>
<th>$1.00</th>
</tr>
</thead>
<tbody>
<tr>
<td>.40</td>
<td>.16</td>
</tr>
<tr>
<td>.06</td>
<td>.03</td>
</tr>
<tr>
<td>.01</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td></td>
</tr>
<tr>
<td>Full impact:</td>
<td>$1.66</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Example

Let's say, for example, that we see an increase in the demand for locally grown produce:

New Local farm sales: $1M in direct sales (plus)

Lost Local grocery store sales: $1M in direct sales (minus)
## Example

<table>
<thead>
<tr>
<th>Impact Type</th>
<th>Employment</th>
<th>Labor Income</th>
<th>Total Income</th>
<th>Industry Sales</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grocery Store</td>
<td>-6</td>
<td>-$157,073</td>
<td>n.a.</td>
<td>-$1,000,000</td>
</tr>
<tr>
<td>Farm Produce</td>
<td>7</td>
<td>$1,030,720</td>
<td>n.a.</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Net Direct Effect</td>
<td>1</td>
<td>$873,647</td>
<td>$278,626</td>
<td>$706,000</td>
</tr>
<tr>
<td>Indirect Effect</td>
<td>2</td>
<td>$67,984</td>
<td>$153,938</td>
<td>$242,567</td>
</tr>
<tr>
<td>Induced Effect</td>
<td>7</td>
<td>$252,497</td>
<td>$477,325</td>
<td>$754,354</td>
</tr>
<tr>
<td><strong>Total Effect</strong></td>
<td><strong>9</strong></td>
<td><strong>$1,194,128</strong></td>
<td><strong>$909,888</strong></td>
<td><strong>$1,702,921</strong></td>
</tr>
</tbody>
</table>

Dane County 2009
What Don’t We Know?

One of the arguments for supporting smaller scale farms is they are more likely to make their input purchases locally.

Specifically, the initial leakages for “local foods farmers” is smaller than for more traditional commercial farmers…...

In other words, the multiplier for “local foods farmers” should be bigger than traditional commercial farmers.

But we do not fully understand if this is true or not.
What Don’t We Know?

From an economic growth perspective which type of agriculture has a greater role in generating growth?

Two competing theories:

- Export Base (more money coming in)
- Import Substitution (keep money local)

Should we be promoting local foods for local consumption or products for export to California or overseas? Or both?
What Don’t We Know?

• What role does value added processing play?

• How do we define “local”? Is Chicago considered “local” for an artisan cheese located in Green County?

• Does community supported agriculture yield sustainable levels of income for farmers?

• How does a disjointed network of “local foods farmers” form contracts for institutional purchasing?
References


References


Discussion
THINKING ABOUT THE ECONOMIC IMPACTS OF LOCAL FOOD SYSTEMS

- Is economic impact important to your work in local food systems? If so how?
- What other impacts are you most interested in and how are you measuring them?
- What successes have you had in measuring impacts?
- What are the challenges to measuring impacts?
- What impacts should we be measuring statewide?