

Building the Value Chain From the Ground Up



Quantifying the Value of Local Foods to North Carolina

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My Background



- ❧ Yale University (B.A.): Economics/Psychology
 - ❧ Worked in Consumer Marketing Laboratory (Dhar)
- ❧ Duke University (M.S.)
- ❧ Mathematical Background
 - ❧ Statistical Theory
 - ❧ Stochastic Modeling
 - ❧ Data Mining



The Situation



How do we enrich/protect the livelihoods
of NC's agricultural producers?

The Situation



- ∞ NC is 8th in Agriculture Production Nationally
- ∞ 52,913 farms in NC (2007 Ag Census)
 - ∞ 301,000 in 1950 (Lilly, P. 1998)
- ∞ 8,474,671 acres of farmland today (2007 Ag Census)
 - ∞ 17,800,000 in 1950 (Lilly P. 1998)



Local Foods?



- ❧ Why?
 - ❧ Producer's retain more revenue in shorter Value Chains (King et al, 2010)
 - ❧ Conducting business locally accrues more benefits to the community than doing so far away
 - ❧ Multiplier Effect (Kahn, 1930)
- ❧ What?
 - ❧ Agricultural Foods and other goods intended for sale
 - ❧ Other Goods?
 - ❧ Feeds
 - ❧ Textiles
 - ❧ Fuels
- ❧ Where?
 - ❧ Within North Carolina



Previous Research



- ❧ North Carolina Studies
 - ❧ Growing Local (Appalachian Sustainable Agriculture Project)
 - ❧ Farm 2 Fork (Center for Environmental Farming Systems)

- ❧ Some National Multiplier Studies
 - ❧ Myles, A., and K.Hood. (2010 - Mississippi)
 - ❧ Henneberry, S.R. et al (2009 - Ohio)
 - ❧ Hughes, D.W. et al (2008 - West Virginia)
 - ❧ Swenson, D. (2006, 2009 – Iowa)



How multipliers are studied



- ∞ Input-Output Analysis
 - ∞ Describes the net transactions between every industry in an economy
 - ∞ By changing the size of one sector, one can see how it affects all the others
- ∞ IMPLAN (MIG Inc.)
 - ∞ Only data package that has “data” at the zip code level

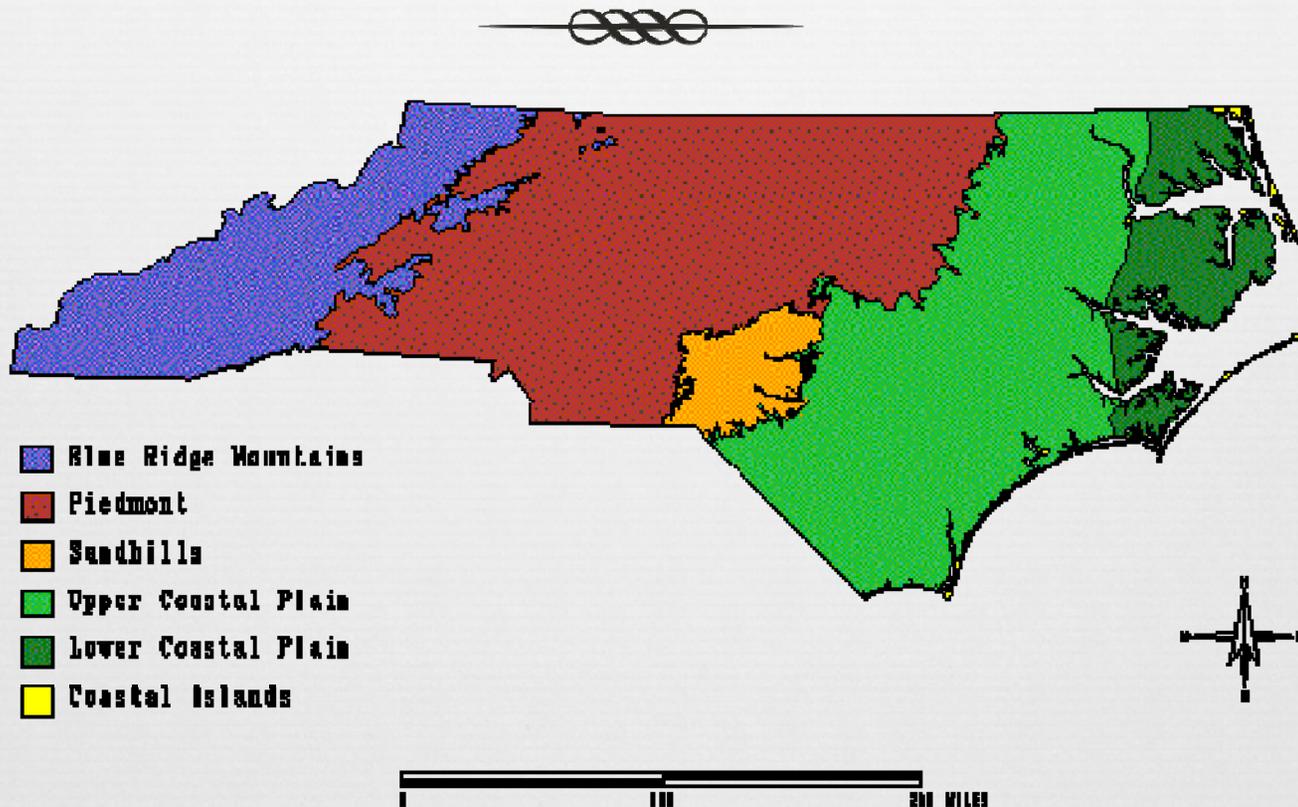
**Implication: Regional Economies are
Different in Size but not Character**

Regional Differences



- ∞ NC has a range of diverse climates/topographies
- ∞ NC can produce very large range of goods
- ∞ The same commodity is often not produced the same way in different regions
 - Average Farm Size
 - Weed Pressures
 - Topographies
 - Soil Properties
 - Pest Pressures
 - Crop Rotations
 - Price of Land

Regional Differences



Different Regions have a Comparative Advantage
over others

Our Approach



- ❧ Work with producers, intermediaries, retailers, and consumers to build database of representative value chains
 - ❧ Try to include everything (inputs/labor/sales/accounting/etc)
- ❧ Use this information to fix the IMPLAN database so it accurately reflects NC Agriculture regionally
 - ❧ Participants will be selected at random so we can build fair/accurate picture of NC agriculture

How are we going to do this?



- ❧ We need a list of all the producers in NC
- ❧ Four simultaneous approaches
 - ❧ Present Use Value Deferrals Records
 - ❧ Subsets of intermediaries' contact lists
 - ❧ Direct to Consumer Organizations (Farmer's Markets, etc...)
 - ❧ With the help of Cooperative Extension/National Agricultural Statistics Service

Building the Value Chains



- ❧ Randomly select individuals from the producer database to ask for their help with the project
 - ❧ All identifying information will be kept confidential
- ❧ Work with individuals/companies to determine all connections in their value chains
 - ❧ We are most interested in the net trade by quarter
- ❧ Solicit help from other identified value chain members

Economic Analysis



- ❧ Amend the IMPLAN database to accurately represent the NC agricultural economy today
- ❧ Economic results are more realistic than previous attempts
 - ❧ Data based on real world experiences instead of hypothesized scenarios

Can study how to exploit the comparative advantage of NC's diverse landscapes

Summary



- ❧ Current regional economic analyses don't account for the comparative advantage of different regions
- ❧ We will study the types of value chains that currently exist in NC to improve the available data
- ❧ We will study the effects on the NC economy of different changes to agriculture regionally

This study will provide a conservative estimate of the value of Local Foods and other goods to NC

Thanks



- ❧ SARE - USDA (Sustainable Agriculture Research & Education Fund)
- ❧ The Center for Environmental Farming Systems
- ❧ Dave Swenson & David Hughes
- ❧ Rebecca Dunning
- ❧ Nancy Creamer & John O'Sullivan

Citations



☞ Bibliography:

- ☞ Henneberry, S.R., B. Whitacre, and H.N. Agustini. November 2009. "An Evaluation of the Economic Impacts of Oklahoma Farmers' Markets," *Journal of Food Distribution Research*, Vol. 40, pp 64-78.
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☞ Images from:

- ☞ <http://www.cefs.ncsu.edu>
- ☞ <http://www.learnnc.org/>
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