Community Economic Development

Data Analysis: Part I

Sources of Data
One of the most important roles for Extension community development educators is the bringing of research based information into the community decision-making process.

This can be tapping into existing research generated by others or this can be original research aimed at helping the community better understand local economic conditions.

Here we will focus on the notion of *original research*. 
For our purposes here there are two forms of original research that involves data analysis:

1. **Primary** data analysis
2. **Secondary** data analysis

**Primary data analysis** within community economic development work generally involves analysis of survey data or data collected directly from local residents, businesses and/or local officials.

**Secondary data analysis** involves the analysis of data that has already been collected and published by others, such as Census data, county sales tax data, property value assessment data, or employment and income data from sources such as a BEA-REIS.

Nearly all the tools discussed here are aimed at secondary data analysis........
Community Economic Development: Data Analysis

There are multiple uses of original research involving data analysis within a community setting:

• Mechanism to Stimulate Discussion
• Challenges Local Perceptions
• Identifies Strengths
• Identifies Weaknesses
• Identifies Threats
• Identifies Opportunities
• In the end, helps you understand what is happening locally.....
Often times a sound use of a community economic development practitioner’s or Extension educator’s time and energy is to familiarize themselves with the strengths and weaknesses of the local economy.

This could be reviewing economic profiles complied by others, such as the Wisconsin Department of Workforce Development or others such as Headwaters Economics.
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Using the work of others can be a very efficient and time saving means of familiarizing one’s self with the local economy.

But, getting one’s “hand dirty with the data” can provide powerful insights that cannot be gained by relying on existing reports and publications.

Recall that the ultimate goal is to help communities become innovative in addressing the issues and concerns they face.

But, innovation is based on knowledge, knowledge is based on information, and information is based on data!
Innovation is based on knowledge, knowledge is based on information, and information is based on data.

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**Data** here includes things such as employment and income, retail sales, property values, and number of businesses.

**Information** is the transformation of that data using such tools as growth indices, location quotients, pull factors and others.

**Knowledge** comes from interpreting those data and coming to better understand the local economy.

**Innovation** comes from the insights from that knowledge which is turned into policy actions.
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Issues to Consider

• Looking for Patterns

• Looking for Comparisons

• Looking for Challenges – Surprises

• Looking over Time

• Looking for Insights, Not Precision

• Many Sources – Formal and Informal

  (Informal ➔ local knowledge)
Community Economic Development: **Data Analysis**

Of the different issues, four considerations raise to the top in any part of community economic analysis:

**First**, no single number generated by the analysis provides *the* answer to all of a community’s concerns. For example, if a firm’s profits expand it is still unknown if the increase is caused by more sales or more cost efficient production. Data only does not provide knowledge.

**Second**, it is important to make comparisons among communities because the numbers used are not absolute. A business owner will compare his/her success against the industry average or similar firms, it is important to make similar comparisons for communities. For example, if population grows by one percent, is that “normal”, slow or fast? Population growth, in this example, must be placed in context by comparing to a national or state average or to similar communities.
Community Economic Development: Data Analysis

Of the different issues, four considerations raise to the top in any part of community economic analysis:

Third, it is important to compare changes over time to sense the direction of change. If the community is to understand the direction it’s economy is headed, it must understand how it has progressed over time.

Fourth, it is crucial to use a variety of information sources. “Hard data” must be interpreted to move from information to knowledge. This means drawing on past experiences as well as local knowledge. A “surprise” or “unexpected” finding in the data can have multiple explanations and local knowledge can provide that insight.
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The challenge of the data analysis (too much data):

• One thing to keep in mind is that we're generally trying to determine where the community is now and where does it appear to be headed.

• There is a “story to be told” about the local economy, we are trying to tell that story.

• Avoid the temptation to do a “data dump”.

• Who is the audience?

In most community settings the “challenge” is to convey the “economic story” of the community with the fewest pieces of information. Too much information (aka a “data dump”) will confuse and overwhelm most members of the community. But too few pieces of information cannot paint or tell the story of the community’s economy.
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The challenge of the data analysis (too much data):

• From an Extension programming perspective, what are the “teaching objectives” of the analysis?

• Is the analysis aimed at providing a “technical answer to a focused question”?  
  (for example, what is the economic impact of some hypothetical event?)

• Is the analysis aimed at stimulating a conversation within the community about some issue or concern?

• Is the analysis providing basic reference materials for broader community discussions?
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Traditional Measures

- Employment
- Income
- Unemployment
- Population
- Number of Firms
- Migration

Alternative Measures

- Retail Sales
- Property Values
- Income Distribution
- Social Indicators
  - Crime Rates
  - Drop Out Rates
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Some Primary Sources of Data Beyond the Census

Employment, Wages, Income: BEA-REIS
Wisc DWFD

National, International: FRED

Property Value: Wisc DoR, UWEX LGC GREAT

Retail Sales: Census, Wisc DoR

Crime: FBI UNCR

Business Count/Size: County Business Patterns
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The BEA-REIS is one of the best sources for employment, income and population data.

This data is at the national, state and county levels.

http://www.bea.gov/regional/
For the BEA-REIS “local areas” are counties, so all local data are county level.

The data is annual from 1969 to 2011 (or most current).

There is a “break” in the industry level data (employment and wages) in the transition from SIC to NAICS classification systems.

There are nearly 100 separate lines of data for each county.

All data is downloadable into Excel.
The Wisconsin Department of Workforce Development is a primary source of Wisconsin’s employment and occupational data.

These include the monthly employment estimates plus the quarterly CES employment counts.

This is also the primary source of state and county level unemployment data.
While a primary source of the most current employment data, the DWFD they also provide detailed occupational data with periodic forecast updates.

These occupational data are very useful in understanding the future demand for different skill sets, the educational attainment requirements, and wage ranges.
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For national and international economic data the Federal Reserve Bank of St. Louis’ “FRED” database is a one-stop center.

There are literally thousands of different variables covering a wide range of timeframes. There are detailed data on GDP, international trade, financial markets including bank health metrics, and a range of leading economic indicators.

There is significant state level data ranging from housing states to unemployment rates, but limited county level data. There are no sub-county data.

http://research.stlouisfed.org/fred2/categories
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There are also a wide range of private companies that provide detailed county and in some instances sub-county level data, such as Woods and Poole Economics, Inc.
Most private data vendors, such as Woods and Poole Economics, Inc., charge for their data. There is one company, Headwater Economics, that provides detailed county level data for free.

Headwater offers not only “print ready” county reports, but also an Excel based software application that allows the user to download the data for their county.

While these data are very extensive and a wonderful “one-stop center”, the timeliness of the data can be dated.

http://headwaterseconomics.org/tools/eps-hdt
If one where to spend a day exploring these sites, particularly the BEA REIS and the data analyst page at the Wisconsin Department of Workforce Development, downloading various files into excel or some other spreadsheet software, it becomes readily apparent that it is easy to make the observation that we have “TOO MUCH DATA!”

This is where some of the simple tools we will now review begins to makes sense and the need to be selected in the data and analysis to share with members of the community.
Recommended Readings
(Two books you should have on your shelf.)


www.epa.gov/greenkit/pdfs/howto.pdf