

Eight Ways to Use the BALLE Calculators

The BALLE calculators are designed to give a community some of the essential tools it needs to create a strong local living economy (LLE). This document provides an introduction to BALLE's conception of LLE economic development, and lays out eight ways the calculators can help you and your community meet various LLE economic-development objectives.

An Introduction to LLE Economic Development

BALLE's vision of economic development is one of "local living economies," in which prosperity is rooted in local businesses operating in a sustainable and humane way. BALLE was founded in 2001 by leading entrepreneurs, investors, and thought leaders, to respond to the crises brought on by corporate globalization, such as increasing wealth inequality, environmental destruction, and the deterioration of communities. The goal was – and remains – to build an international network of local economies driven by independent locally-owned businesses committed to enhancing community life and healthy ecosystems.

If you're interested in learning more about BALLE's vision of LLE economic development, we encourage you to read various documents on our web site (www.livingeconomies.org), including the organization's mission statement. BALLE also plans to publish a handbook on LLE economic development that elaborates principles, practices, and policies consistent with this vision.

The one goal especially important to calculator users is that we seek to maximize local self-reliance. At first glance, this goal seems to run counter to the thinking of a generation of economic developers inculcated with the benefits of communities specializing, trading, and enjoying the benefits of comparative advantage. But like all economic theories, that of comparative advantage contains assumptions.

For example, one assumption is that local production of most goods and services is more expensive, and less competitive, than outside production. In point of fact, what we have found at BALLE is that over an expanding range of goods and services, local production is highly competitive. For example, by greatly reducing the need for trucking, packaging, refrigeration, and middle-people, many local foods are becoming cheaper than the nonlocal alternatives. The same is true for local energy production, local banking, even light manufacturing. In this context, every unnecessary import means the loss of potential local industry and the loss of all the "multiplier" benefits that could come from all the associated jobs, spending, and taxes.

"Import substitution," therefore, is a winning economic-development strategy whenever a community can cost effectively produce goods and services for itself. The late regional economist, Jane Jacobs, made these arguments in her many books, such as *The Economy of Cities*. This was not an argument against trading, she pointed out. But the wealth a community gained by diversifying its economy, by producing more goods and services for itself,

was precisely what empowered its best industries to begin to export nationally and globally. Comparative advantages from trade, therefore, sprang from greater local self-reliance.

How far could your community go in becoming self-reliant? Much farther than it has gone thus far, it turns out. And for a variety of reasons, the cost-effectiveness of local production is increasing. As oil prices rise, importing heavy goods like bricks makes less sense. The internet is giving residents of even remote rural communities the ability to participate in an expanding range of industries. Mounting concerns about contaminated food from poorly regulated Chinese factories is adding value to local food production.

While perfect self-reliance is neither possible nor beneficial, greater self-reliance – that is, producing as many goods and services as you cost-effectively can locally – is both possible and beneficial. Indeed, it’s an essential part of smart economic development. It’s also the key to your community developing world-class competitive advantages.

*How you can localize is what BALLE and hundreds of simpatico organizations now teach. The calculators are designed to help you determine *where* you can and should localize.*

A key concept here is “leakage.” How many dollars are leaving your economy because of unnecessary imports? How many jobs could you have if you plugged these leaks with more local industry? How much additional money could those jobs bring into your economy?

How to Use the Calculators

Below we discuss eight ways you can use the calculators for different LLE economic-development objectives. If, as you begin to use the calculators, you discover other ways to use the tools, please let us know and we will expand this list.

(1) Understanding Strengths and Weaknesses

The first use you can deploy the calculators for is measuring the strengths and weaknesses of your community economy. Strengths would be sectors where you not only produce goods and services for yourself but also where you export. Weaknesses would be sectors where you import most of your goods and services, where your dollar leakages are especially large. A smart strategy for LLE economic development is to identify leakages and prioritize creating new businesses to plug the biggest leaks.

The “Overview” Calculator lets you know, for each sector of your economy, how “leaky” your community is. That is, for each of the 1,100 categories of the North American Industrial Classification System (NAICS)¹, you can answer three critical questions:

- How self-reliant is your community in that sector? (The answer will come as a percentage, with 100% meaning you could in theory meet local needs with local production.)

¹ For more information about NAICS, see <http://www.census.gov/eos/www/naics/>

- How many jobs are possible if your community moved to 100% self-reliance in that sector?
- How many dollars in additional earnings (and consequent consumer expenditures) are possible if you moved to 100% self-reliance in that sector?

A level of 100% self-reliance means that your community in theory produces as much as it needs to meet local demand. A level of 0% self-reliance means that your community produces nothing in the category. A level of, say, 50% self-reliance means that if you doubled production, you could in theory meet all local demand.

The qualifier in the previous sentences of “in theory” underscores an important conservatism in the calculators. We infer the degree of self-reliance from the number of jobs a community has in given a NAICS sector. More specifically, we compare the number of jobs per capita your community has in a sector like beer breweries, and compare it to what one would expect per-capita from a self-reliant United States. In fact, most sectors dedicate at least some production to export (outside the community, not necessarily outside the United States). Suppose you had 132 employees involved in beer production and that was, indeed, the number of jobs your population should have to produce enough beer for itself. But it’s possible (though unlikely) with the 100% number that you were exporting all of the beer you produced while importing all the beer you consumed—so further import substitution is possible. *Our data therefore turn out to be quite conservative.*

The first way to interpret the data is to look for self-reliance numbers over 100%. These are your areas of export strength, and illuminate where new money is entering your economy. Typically, these are the industries understood to reside in historic clusters of competitiveness. Hence, communities on the East or West coast usually have strong, exporting fishing, tourism, and shipping industries. Communities in mountainous regions often have strong mining, timber, and wood manufacturing industries. In a city like Los Angeles, various NAICS categories linked to motion pictures and entertainment will be quite large.

All NAICS sectors at less than 100% self-reliance could be expanded through local purchasing. By copying the 6-digit NAICS results into a spreadsheet, you can rank order the data by earnings or by jobs. Looking, for example, at the top 10 jobs opportunities can give you a sense about where local businesses should be grown and where local consumers should be mobilized. The jobs and earnings rankings will be similar but not identical, since a sector with fewer job opportunities that pay more will nevertheless highlight a bigger earnings opportunity.

Before deciding whether a jobs or earning opportunity is real, however, you need to determine whether you have—or could have—the assets for that sector. Any sector at 0% self-reliance should be treated skeptically, since it suggests that there may be some kind of inherent problem that prevents industry from operating there. For example, if you live in a desert, you cannot have a fishing industry.

Among the categories particularly limited by natural resource endowments are:

- All of NAICS Sector 11, which includes agricultural support, fishing, and logging.

- All of NAICS Sector 21, which focuses on mining and related industries.
- Certain manufacturing categories in NAICS Sectors 31-33 that are linked to the natural resource industries in Sectors 11 and 21. Aluminum smelting, for example might be located near a bauxite mine.
- Certain types of transportation in NAICS Sectors 48-49, such as shipping, are linked to the close proximity of water.

What is striking, however, is that the number of these categories and their importance have been steadily diminishing. For example, rural regions that once were defined strictly by their resource bases are now becoming the home base, thanks to the internet, for an expanding array of businesses and professions. More than nine out of ten NAICS categories can be found almost everywhere.

Beyond natural resource limitations are industries that require other special factors, such as cheap labor. It therefore may be hard to conceive of manufacturing businesses that are currently dominated by Third World workforces earning under \$1 per hour being viable in any U.S. community. In fact, however, there are viable models of small-scale success in almost every one of the NAICS codes. American manufacturers can still compete with low wages by substituting technology effectively for labor or by applying skilled labor for specialized niches.

Let's look at a specific example: Suppose you lived on the California-Oregon border, in Siskiyou County, and you want to understand the economy there. You perform a six-digit analysis, which means you results for all 1,100 NAICS sectors. Here's how you might analyze the results:

- Very few categories are above 100%, suggesting that this is a very leaky economy.
- Among the categories above 100% -- many, way above -- are logging, animal-production support, forestry-support, stone and metal mining, fruit and vegetable wholesaling, solid waste landfill, skiing facilities, parks, campgrounds, and landscape architects. All of these are natural-resource related businesses, which makes sense given that Siskiyou is a mountainous, rural, and sparsely populated county.
- Some of the >100% categories are very common for rural areas. Given the reliance of rural areas on cars, for example, there are high numbers for towing services and gas stations. There also are above-average numbers of self-storage units, equipment-rental services, and bottled gas distributors—again, common in rural areas.
- Many of the other categories above 100% represent one or two big, stand-alone businesses: a bottled water manufacturer, a brewery, an air-freight company, a performing arts school, a management-training center, a mental health center, and an air purification manufacturer.
- The vast majority of sectors have <1% which means, effectively, that all local demand is leaking elsewhere. Each of these categories offers opportunities for import substitution.
- The total level of new jobs available were the county to become self-reliant is 10,790, and they could bring half a billion dollars of new wages into the county each year.

What this example underscores is that it's important to develop a narrative for your community. Try to make sense of the numbers. Where you see numbers that are surprising, think about possible reasons.

The BALLE Overview Leakage Calculator is not the only tool available for measuring leakage in one's community economy—but it's by far the cheapest and easiest to use. The Input-Output Model IMPLAN, for example, allows the user to perform slightly more nuanced assessments of leakages in 500+ sectors (compared to the BALLE calculator's 1100), and to calculate the indirect and induced economic impacts from localization initiatives (which the BALLE calculators cannot do). But the baseline software for IMPLAN costs about \$500, training needed to run the software can run thousands more, and *each* county or zip code of data can cost \$100-300.²

(2) Setting Economic Development Priorities

By studying calculator-generated lists of NAICS sectors with especially large earnings and jobs potentials and retaining only those that are plausible within your resource base, you can begin to prioritize economic development initiatives, whether private or public. It makes logical sense to focus limited time and dollars on those businesses that could generate the greatest numbers of jobs and the high levels of earnings.

A sophisticated approach might be to group the 1100 sectors together into more coherent value-chain categories. (Future versions of the calculators hopefully will do this automatically.) For example, here are ten sensible “building block categories” for a local living economy (elaborated in the forthcoming BALLE economic-development handbook):

- *Local Food* – Combines agriculture, food manufacturing, food wholesale and retail, restaurants, and other food services.
- *Renewable Energy* – Combines agriculture (for biofuels), housing retrofits, mining, and utilities.
- *Green Building* – Combines agriculture, construction, construction-materials manufacturing, and real estate.
- *Recycling & Reuse* – Combines materials manufacturing with waste management.
- *Green Manufacturing* – Combines mining, manufacturing, and waste management.
- *Sustainable Software* – Linked to the information sector.
- *Community Finance* – Linked to the finance sector.

² Users interested in IMPLAN can find a consultant in their region by going to www.implan.com and clicking “consultants.”

- *Local Service* – Combines business services, management services, and personal services.
- *Human Capacity* – Combines health, social service, and education.
- *Independent Retail* – Combines wholesale, retail, and certain service categories.
- *Local Arts & Entertainment* – Linked to the arts, entertainment, and recreation sector.
- *Local Transport* – Combines personal and commercial transport categories.

Looking at the aggregate jobs and earnings impacts of self-reliance in each building block suggests a logical way to prioritize which deserve the greatest attention. Identification of especially large opportunities in local food, for example, might lead to targeted policies promoting urban farming, farm-to-school procurement programs, and kitchen incubators.

Suppose, for example, I was to look at Philadelphia County, Pennsylvania. Five of the biggest leakages by earnings, each greater than \$200 million per year, are electric power producers, electrical contractors, air-conditioning contractors, real-estate credit companies, and scientific researchers. Among the priorities this highlights: Develop a municipal utility system, perhaps a network of wind-electric machines. Create a strong local construction and construction-finance capacity. Tap into local universities to build a strong local research capacity.

It's worth adding that import-replacement offers an improvement, conceptually and pragmatically, over the current practice in economic development to expand sectors or clusters of existing strength. The leak-plugging strategy, for example, emphasizes local entrepreneurship, which is cheaper and better linked with long-term prosperity, over outside business attraction. It also moves the economy toward greater diversification, which better inoculates the local economy against unforeseeable global market shifts and equips the local economy to take advantage of unforeseeable opportunities.

(3) Framing Self-Reliance Goals

A third use of the Overview Leakage Calculator is to set goals that the public readily understands. Your community might decide that even if 100% self-reliance is desirable, it's unrealistic, and instead choose a goal of, say, 25% localization over the next decade. (In this context, "localization" is another term for "self-reliance.") All that's needed to do this is to take the job numbers (with 100% localization) and divide by four. This then gives you the opportunity to present specific jobs and earnings goals for all your priority sectors. The public, and the media that serve the public, find jobs numbers an especially helpful standard for weighing the significance of a proposed economic-development program or policy.

Taking the Siskiyou County example above, if you were to set a goal of 25% self-reliance in a decade, it would mean creating about 2,700 new jobs and bringing more than \$125 million into the economy in the form of new wages each year. This can then provide a framework for a broad range of localization initiatives.

(4) Setting Local Food Priorities

The Food Leakage Calculator presents key data about farms and agricultural production for a given community. These data can be found in the USDA's Ag Census,³ but the calculator makes it very easy for users to find key data. It also compares production data with consumption data from the Consumer Expenditure Survey⁴ to provide a community with a very concrete sense of the extent to which it is *not* food self-reliant or food secure. Nearly every community in the United States imports nearly all its fresh food, and the Food Calculator suggests how many pounds of fruits, vegetables, and grains, and how many chickens, cows, and pigs would be needed for the community to feed itself.

For example, El Paso County, Colorado, has a big, \$150 million per year beef industry. And yet the county is still only 28% self-reliant on the steers it grows. There is the potential to create in this county a dairy industry with 26,000 milk cows, a pork industry with 279,000 pigs, and a poultry industry with 17 million chickens grown per year. There is also the potential to grow nearly all the fruits and vegetables consumed locally. Thus, a county that perceives itself as strong in agriculture actually turns out to have huge opportunities for economic growth through food self-reliance.

These data provide an important supplement to the Overview Calculator, because NAICS data do not include farming. Alongside information about sector-specific leakages in agricultural support, food manufacturing, food retailing, restaurants, and food service, food leakages let the public know about specific weaknesses in the community's existing food system—and specific opportunities for remedying those weaknesses.

We are planning to expand the Food Calculator to analyze business, institutional, and government purchases of all kinds of food products and services. Additionally, we plan to add measures of other key indicators of the health of a community food system, including numbers of CSAs, farmers markets, and food deserts.

(5) Prioritize Financial Partners

The Finance Leakage Calculator presents in one place the most complete locator for local banks and credit unions available on the web. Other sites enable you to find local banks or credit unions, but not both. Local bank locators tend to exclude locally owned banks whose assets exceed a certain threshold. The BALLE calculator reflects a more careful vetting that analyzes the ownership of a holding company and the exact character of any interstate activity. For example, a small bank that operates in two or three states but in a narrow geographic area might be included.

³ <http://www.agcensus.usda.gov/>

⁴ <http://www.bls.gov/cex/>

These data allow users to easily identify financial institutions worthy of local patronage. The list of local financial institutions can be shared with others, to encourage the community to move their money into these local financial institutions. By looking at the asset levels of local financial institutions, users also can research the relative size of local vs. nonlocal finance in their area. To provide a sense of what the local baseline is, we present Federal Reserve data – the only data available – on the likely size of a community’s assets. Specifically, based on national data, we extrapolate the value of local short-term accounts (checking, savings, and money markets) and long-term accounts (stocks, bonds, pension, mutual, and insurance funds).

In Washington, DC, for example, we would learn that even though there are more than 50 banks operating there, many claiming to be local, only one small bank – the National Capital Bank – actually is locally owned. Additionally, there are three dozen credits unions, though nearly all of them are linked to specific workplaces.

(6) Making the Case for Local Investment

While the Federal Reserve data about local financial assets can be found and calculated easily by experts, no calculator exists right now that makes these data easily accessible to laypeople. To give a sense of the value of this, a study of metro Cleveland’s local food system⁵ concluded that 25% localization would require about \$1 billion of additional investment. Using BALLE’s Finance Calculator, they were able to show that as large as this investment sum seemed, it actually was 1% of the amount in short-term accounts in the region and ¼ of 1% the amount in long-term accounts. These data can help the public understand how large the financial universe is –and how little of that universe is currently allocated to local business.

(7) Assessing the Case for Regional Collaboration

Another valuable use of the calculators is to assess the relative strengths and weaknesses of a regional, as opposed to a local, approach to economic development. Among the reasons *not* to pursue a regional approach, larger groups are harder to organize, costlier to manage, slower to achieve concrete results, and less reliable when compared to efforts to generate strong economic multipliers through local initiatives (multiplier effects dissipate over greater areas). But the calculators can reveal particular opportunities for weaving together localities with complementary leakages. For example, the Cleveland food study mentioned above was able to use the calculators to justify how rural counties in Northeast Ohio could provide the food supply for urban counties.

(8) Measuring Progress

A final use of the calculators is for a community or a business alliance within a community to measure its progress. By carefully recording results from the calculator in 2010, 2011, 2012, and so forth, a community can measure:

- Whether leakages in each NAICS sector are shrinking;

⁵ <http://www.neofoodweb.org/>

- Which sectors are becoming leakier (and therefore warrant greater attention);
- Whether the number of NAICS sectors becoming more self-reliant is exceeding those becoming less self-reliant;
- Whether raw-food leakages are shrinking;
- Whether the number and asset sizes of local financial institutions are expanding.

Future versions of the calculator will expand to include multiple years and allow for simple year-to-year comparisons.

These performance indicators can let a community or a business alliance know, retrospectively, whether its work is having an impact. It could also use these findings to justify more resources being allocated to LLE economic development. If the indicators do not point to a deep programmatic impact, the details could help to reorient LLE initiatives so that they are more effective.

If you have further questions or comments on this paper, please contact us at leakagecalculators@livingeconomies.org .