

The Economic Multiplier

A community can add new wage paying jobs in three ways:

- goods or services produced locally, sold to non-residents, bring money into the community to pay wages
- money from outside the region can directly pay the wages of local jobs
- money already in the region can be re-spent there, supporting local jobs

In Alaska, **goods** sold outside the community are usually produced by harvesting or processing a natural resource like fish, timber, or petroleum. Natural resource production is constrained by the size of the resource and is typically also subject to large fluctuations in demand, and volatile sales prices. Unlike many regions of the U.S., in Alaska the production of finished manufactured goods is not an important component of sales outside the state. **Services** sold to non-residents are usually in the tourist or international air cargo industries.

For the state as a whole, the largest source of outside money paying local wages is the federal government. It brings money into Alaska each year by directly employing workers in federal agencies here and by providing additional jobs through transfers and grants for social services, construction projects, and other purposes. In many communities, the State of Alaska is the largest employer bringing jobs into the community.

New money also comes into communities when a resident commutes outside the community to work and brings his paycheck home, or when a household receives a payment from outside the community such as a Permanent Fund Dividend check, a retirement payment, or a return on an investment. Although these inflows add to household income, they will not automatically create new local jobs, unless that income is spent within the community.

Local spending of the money that comes from the sale of goods and services outside the community or from public and private inflows of purchasing power is the third way to add new jobs. Both local businesses and households that spend their money within the community support other businesses, mostly trade and service businesses. Creation of jobs through this method is often called the **economic multiplier**. We calculate the economic multiplier as the ratio of total jobs in the local economy to the jobs in the local economy attributable directly to the purchasing power that comes in from outside the community.

The number of jobs that a local economy can expect to support from the economic multiplier depends primarily on the size of the local market, measured by the amount of purchasing power (cash income) in the community. There is a minimum market size for each type of local business to be profitable selling to other businesses and local households, and this **threshold** market size varies with each type of business. A second important factor determining whether a local business can be profitable is the **range** of the market of the business, the maximum distance that a business can extend its sales before bumping into competition.
For example, a grocery store or general store is a business with a small threshold size. Very small markets can support a grocery store since it can generate a large volume of sales from each household and business in the community. It also needs to be located close to its customers because of the high frequency of customer visits to the store. It has a small threshold size and very limited range. An appliance store has a larger threshold (it requires a larger market size) because higher costs of doing business must be spread over a larger market. Since customers make purchases infrequently, they are willing to travel greater distances. So the range of the business is larger than the grocery store.

Because a limited variety of businesses are able to operate profitably in smaller markets, while larger markets can support more specialized businesses as well as those found in the smaller markets, there is a hierarchy of business types among communities.

Figure 13 shows an example of a six-level hierarchy of trade centers in one region of the U.S. The smallest centers, minimum convenience trade centers, are the most numerous, but have the smallest number and variety of businesses selling to the local market. The next larger size places, the full convenience trade centers, are less numerous, but each has not only the types of businesses found in the minimum convenience centers, but also businesses that can only be supported by the larger market in a full convenience center. The full convenience center market benefits from the purchasing power of the surrounding minimum convenience centers.

As one moves up the hierarchy of trade centers with larger market sizes encompassing larger areas, the variety of businesses increases. Both more specialized types of retail and service businesses and wholesale functions can be found in the larger markets. Although this example is somewhat dated because of technological changes in retailing in recent years, and conditions in rural Alaska are unique in many respects, the general notion of a hierarchy of markets remains valid.

The implication of this for local job creation is that small places can create few jobs based on the economic multiplier. Most goods and services purchased by local businesses and households will come from one of the larger trade centers outside the local market. This means that to add a job through the economic multiplier requires adding a lot of purchasing power to the local market, since only a small fraction of that money will be spent locally, supporting local jobs. We have estimated that in the smallest census areas in Alaska it would take $15 or more of new purchasing power flowing into the region to produce $1 of new income for someone working in a business supplying goods and services to other local businesses and households. In the larger markets, such as Anchorage, Fairbanks, and Ketchikan, less than $5 of new purchasing power brought into the community will generate an additional $1 of income in a support business (Figure 14). For the smallest communities in the smallest census areas an infusion of considerably more than $15 of new purchasing power would probably be necessary to generate $1 of income in a support business.
The economic multiplier in these small places has a value little more than 1.0. For a larger market like Anchorage, the multiplier would be in the range from 1.3 to 1.6. An important consequence of a small multiplier is that the only way to create jobs in a small community is to bring more money into the economy from outside the community. Almost none of the jobs in areas with low multipliers result from re-circulation of purchasing power already within the community.
A contributing factor to the small amount of employment generated by the economic multiplier in small places is the fact that few of the dollars spent on local retail purchases end up as wages paid to store employees. A large share of those dollars leaves the community immediately, to pay the non-local supplier and the transporter to bring the goods into the community. The paths by which a dollar of purchasing power can leave the community, as well as the residual which remains to become wages paid to a worker in a support business, are shown schematically in Figure 15. Money leaks out of the local economy first when a resident or business makes a direct purchase outside the region. Of the money that is spent locally, a large share leaves the region to purchase the goods found on the shelves of the local stores. Of the money that remains after the business pays for the goods, a portion goes to the maintenance of the store. The rest goes to
employees as wages and to the owner as profit. It is this small share of the original $1 that supports local employment.

Descriptions of small rural economies in Alaska are consistent with this finding that only a small portion of the purchasing power that comes into the community remains to become wages in support businesses. For example, in two western Alaska communities of about 110 households each, the main support business was one or more local stores. In one village total purchasing power was about $2 million, while the wages paid by the local store were about $100 thousand. In the other community, per capita spending at the store was over $3 thousand, for a total of nearly $2 million, but only 10 percent of sales was paid as wages to employees (A Demographic and Employment Analysis of Selected
Another factor also limits how much of a community’s purchasing power goes into wages. In small communities, and even in large urban economies, a significant amount of work is done outside the market and is not compensated in wages. In urban areas this economic activity is known as the barter or underground economy. In Native rural areas the non-market economy is usually characterized as subsistence activities. However, some non-market activity in rural areas probably does not fall into a traditional definition of subsistence. In small isolated communities people have to provide many services for themselves and others that in larger places are provided by someone in the business of selling services. In small places this work may not be compensated by a cash payment, but it nonetheless represents employment which has value. A complete accounting of the economy of a small place, including its employment, should take into account working for wages in the market, subsistence activities, and other work that is done without cash compensation that would normally be done for payment in the urban economy.