

## What is a Multiplier?

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The total impact of a dollar produced or spent in a community is often measured through the use of a "multiplier." Much confusion exists however, over the proper usage of multipliers and just how they fit in an economic analysis.

Multipliers are commonly used in economic studies which attempt to show how important one business or industry is to a given geographic region or community. Multipliers are numbers which measure the magnitude of the direct and indirect effects that a given amount of production or expenditure has on a region or community. There are multipliers for total output, income, and employment.

A direct effect is equivalent to the initial impact of the original production or expenditure. For example, the direct effect of \$1.00 spent on some good or service in a community is 1. Indirect effects measure the additional effects the original purchase may have as that expenditure "turns-over" within the region or community.

For example, lets assume that we want to know the total impact that money received from the sale of a market steer has on a community. The direct effect represents the money received from the sale of the steer as it is used to pay for all the inputs used in the production of that steer as well as provide income for the rancher to whom the steer belonged. The indirect effect represent what happens to the money after it is spent to: (1) pay for inputs used to produce the steer or (2) provide income to the rancher.

Many, of the inputs used in the production of the steer were purchased from various agricultural businesses. Money spent on these inputs are considered gross receipts to those agricultural business which supplied them. These business, in turn, use a portion of the money to pay other businesses for the inputs required to operate their own businesses. Thus, a portion of the money spent in the production of the steer can cycle over and over in the local community as these agricultural businesses purchase and sell items, one with another.

In addition to the expenditures for agricultural inputs above, the rancher uses the income portion of the sale of the steer to purchase goods and services

for family living and recreation. Many of these expenditures are to non-ag businesses located in the community. And, as in the ag business example above, these non-ag business use the money they received from the rancher to pay for the inputs required to operate their own business. Thus, the income portion of the money received from the sale of the steer can also cycle over and over within the community.

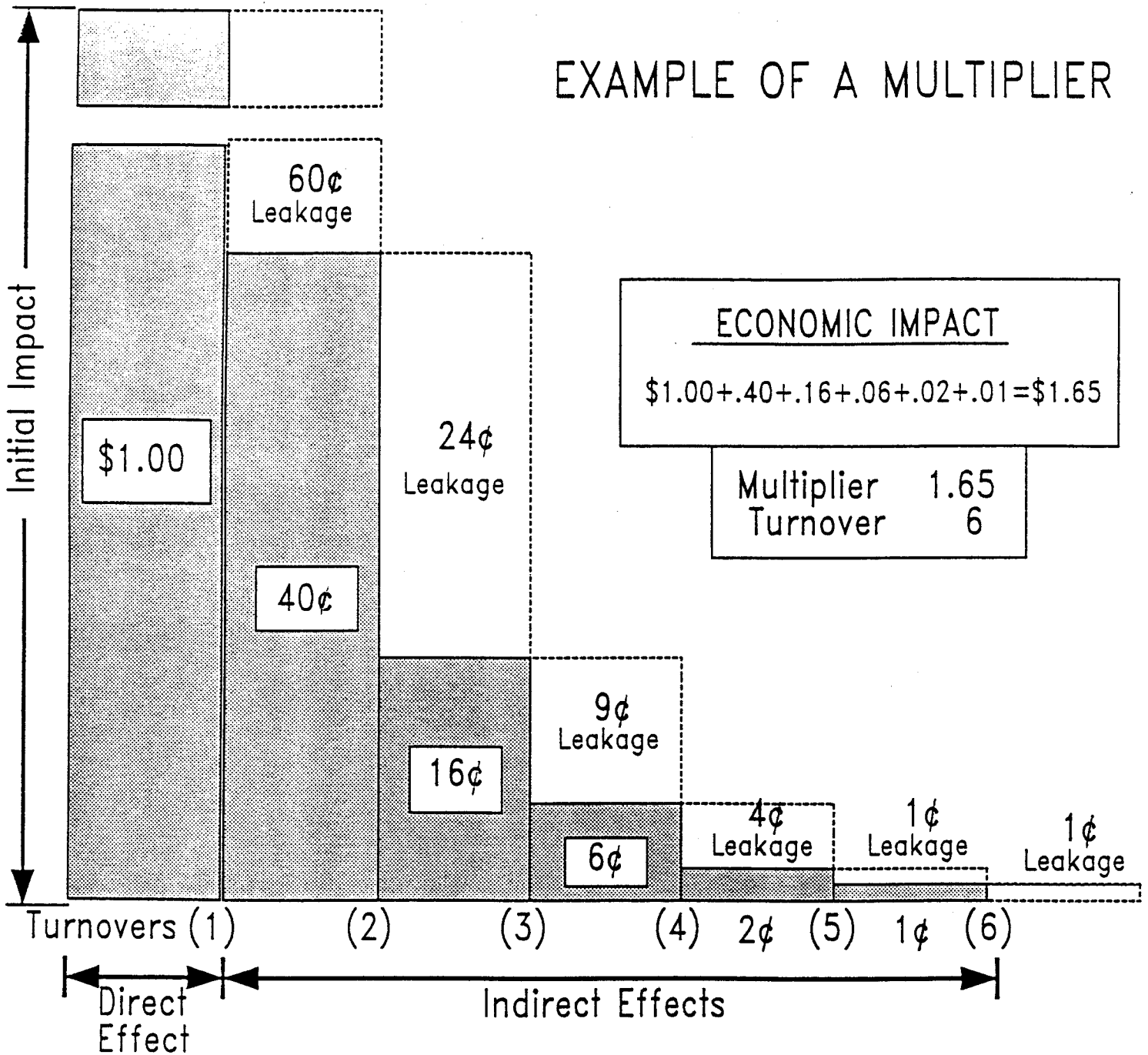
The magnitude of the indirect effect is dependent upon how much of the goods and services were produced within the local area and how much of them were produced outside. The continuing or multiplier, effect of money spent on goods and services produced outside the local area is lost to that economy and no longer contributes to the final size of the multiplier. This is demonstrated in the figure as "leakage".

The example in the figure assumes that 40 percent of the value of purchases within a community remains in that region. Thus, 40 percent of an initial one dollar expenditure remains in the economy each time the money turns-over in the region. The term "Turnover" represents the number of times portions of the initial impact cycles in the economy. People often confuse turnover with multiplier. The number of times an initial impact turns-over in an economy is not equivalent to the size of the final impact as represented by the value of the multiplier. Thus, hearing that a dollar spent in any given industry in a community turns over 7 times does not imply that the multiplier is 7. The money may turn-over 7 times, but 7 is not the multiplier.

In our example, the money turns-over 6 times. However, when the indirect effects are added to the direct effect, the total (or multiplier) equals 1.65. Recent studies estimating multipliers have indicated that, especially for smaller communities, multipliers range between 1 and 3, and are more normally under 2.

When comparing two economic studies which employ multiplier analysis one should not be overly concerned with the exact size of the multipliers which are presented. What is more important is to determine if the multiplier from one study is comparable to the multiplier of another. To answer this, the assumptions of each study, their model designs, and other considerations must be taken into account. The origins of both multipliers must be compared before emphasis is placed on their exact sizes. Multipliers above 2 should be viewed with some skepticism.

# EXAMPLE OF A MULTIPLIER



This example assumes 40% of the money spent in a community remains in the region while 60% leaks out. Thus, a dollar spent in the community turns-over 6 times while the multiplier is only 1.65.