

Function Notations

back to [Fan's Intro Math for Econ](#), [Matlab Examples](#), or [Dynamic Asset Repositories](#)

When you read your first economic papers, perhaps you are confused about function notation. Economic models include potentially a lot of variables, and different notations are used based on personal preference. Make sure you use consistent notations, and state clearly what your notations mean.

In general, the letter f represents a particular rule of mapping, if there are multiple functional relationships in an economic model, different letters could be used, for example:

$$y = Y(h), l = L(h), u = U(h)$$

These three equations could be from a model where:

- h is the number of hours an individual works
- y is the income that the individual makes as a function of work hours
- l is the number of leisure hours remaining as a function work hours
- u is the overall level of utility as a function of work hours.

Or you might potentially want to use superscripts:

$$y = f^y(h), l = f^l(h), u = f^u(h)$$

Or we could use the same letter (small cap) for function as the letter for the value of the function:

$$y = y(h), l = l(h), u = u(h)$$

Or maybe even more letters:

$$y = PROD(h), l = LEIS(h), u = UTIL(h)$$

Or perhaps different single letters than the output:

$$y = f(h), l = g(h), u = v(h)$$

Each notation structure could be confusing, make sure you are clear about what your notations mean. Math should help make our ideas more clear to ourselves and others, and that starts with clear functional notations.