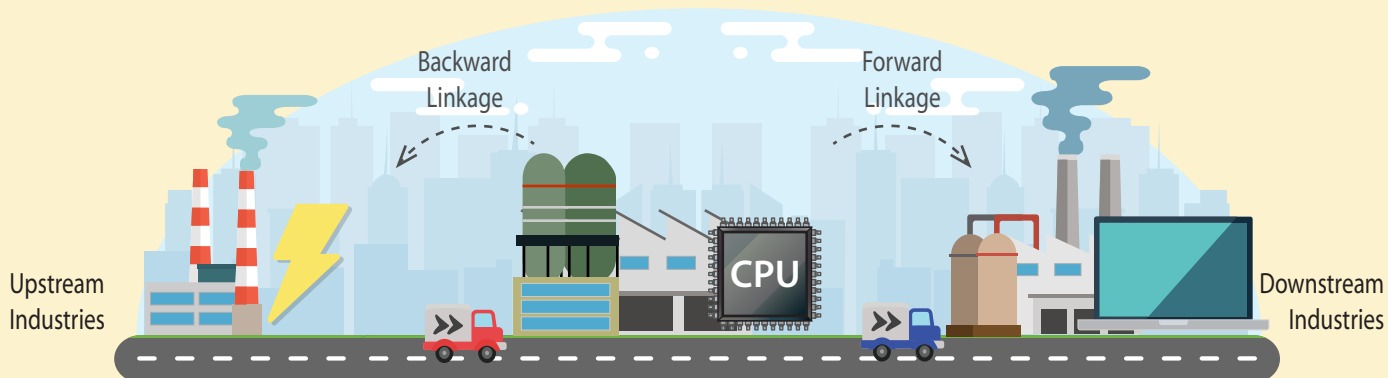


# Connecting the dots between industries: Linkages

## What are backward & forward linkages?



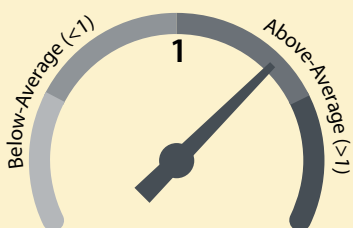
Industries depend on other industries to obtain goods and services as production inputs. An industry's backward and forward linkages measure the industry's economic interdependence with other industries.

For example, an increase (or decrease) in the output of the processor chip manufacturing industry would increase (or decrease) demand for inputs from upstream industries such as utilities and wafer manufacturing industries.

On the other hand, an increase (or decrease) in the output of processor chips would increase (or decrease) the supply of inputs to downstream industries such as the computer manufacturing industry.

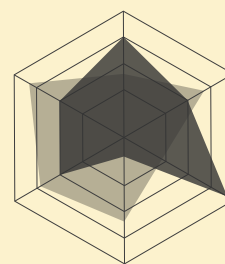
An industry's backward linkage provides a relative measure of the potential increase in output induced in upstream industries in response to a dollar increase in the industry's output while the forward linkage measures the output induced in downstream industries in response to a dollar increase in the industry's output.

## What do linkages tell us?



**Strength of Linkage**

The *strength* of an industry's linkage indicates the degree of interdependence that the industry has with the economy as compared to other industries. An expansion in an industry with a higher linkage would stimulate higher levels of domestic output production. An industry would be considered a key industry if both backward and forward linkages are larger than one.



**Coefficient of Variation**

The *coefficient of variation* of an industry's backward (or forward) linkage indicates the spread of the industry's interdependence among upstream (or downstream) industries. A low coefficient means that an expansion in the industry would stimulate the whole economy in an even manner. Conversely, a high coefficient implies that the stimulus is biased towards only a few industries.