

# Quiz 1

## Production Efficiency

Econ 101  
Professor Guse

Define Production Efficiency.

**ANSWER.** From Parkin: “We achieve production efficiency if we cannot produce more of one good without producing less of some other good. When production is efficient, we are at a point *on* the PPF. If we are at a point *inside* the PPF, production is inefficient because we have some *unused* or *misallocated* resources or both”

Some Remarks.

1. There is a broader notion, simply called *efficiency* or *Pareto efficiency*. If a system is behaving efficiently, it means that it would be impossible to make somebody better off without making somebody else worse off. Parkin splits this notion into two ideas *production* and *allocative* efficiency. Note that division here is along the lines of two of the “big question” we ask in economics. *Production* efficient is on the “What?” and “How”? side while *allocative* efficiency is on the “How Much” and “To Whom?” side.

Hence if a system is inefficient in the overall Pareto sense, it means that *something* can be done to make some people better off without making others worse off. That *something* maybe a change in how inputs are allocated to various productive process or it may be a change in how the output from those productive processes are distributed among the population. Note that

production efficiency  $\Leftarrow$  Pareto Efficiency  
allocative efficiency  $\Leftarrow$  Pareto Efficiency

That is, production efficiency is a *necessary* condition to achieve overall Pareto Efficiency, but not a *sufficient* condition. Similarly for allocative efficiency. However

production efficiency + allocative efficiency  $\iff$  Pareto Efficiency.

2. Parkin cites one reason we might *inside* the PPF is that some resources are going “unused”. This may be true, but one must be careful here. For example, if you sitting around at home and not working, are you one of the “unused” units of labor being referred to? No! You might be misallocated, but sitting around at home is *leisure* and

that is something people value. Land provides another example. If a farmer decides to not development a parcel of his land into cropland - leaving it forest or marsh - is that land “unused”? Again, probably not. It is likely used to produce ecological services which society values - water quality, biological diversity, etc - services which would be degraded if that land were put into tillage. In fact, true examples of totally unused resources are difficult to find - though gross missallocation or even destructive use is not so uncommon.