

CONCEPT: PRODUCTIVITY AND THE PER-WORKER PRODUCTION FUNCTION

● **Productivity** – goods and services produced from each unit of _____. Productivity is determined by:

□ *Physical Capital per Worker*: the tools, machinery and structures available for the workers to use

> Physical capital is a unique factor of production because it can be used to create more physical capital

Example: A pizza shop uses an *oven* to create pizzas →
Oven manufacturer uses other *machinery* to create oven →
Tool manufacturer created tools using *other capital* → ... etc.

□ *Human Capital per Worker*: knowledge and skills acquired through education, training, and experience

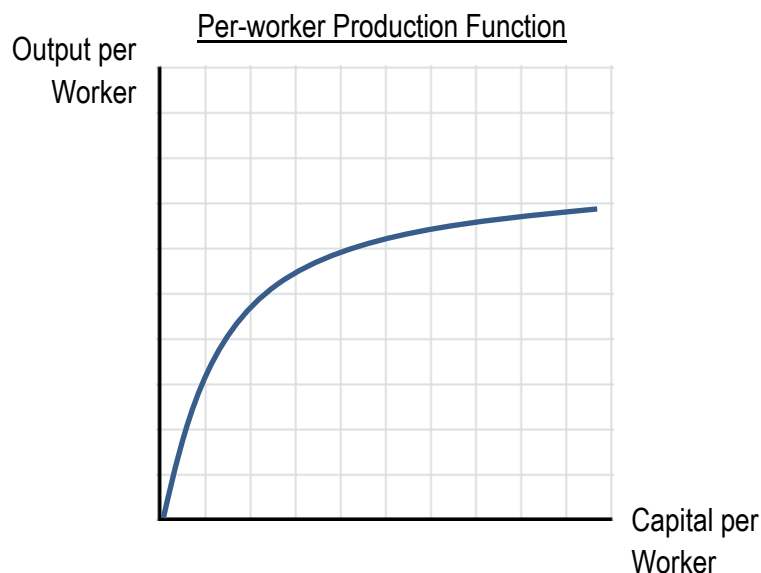
> Human capital, similar to physical capital, requires inputs to grow (i.e. teachers, libraries, time)

> Increasing human capital is an investment in _____ productivity

□ *Levels of Technology*: the processes used to turn inputs into outputs

> Technology generally only _____ leading to _____ productivity over time

● **Per-worker Production Function** – the relationship between _____ and _____ per hour worked



□ The function shows that there are _____ to capital per worker

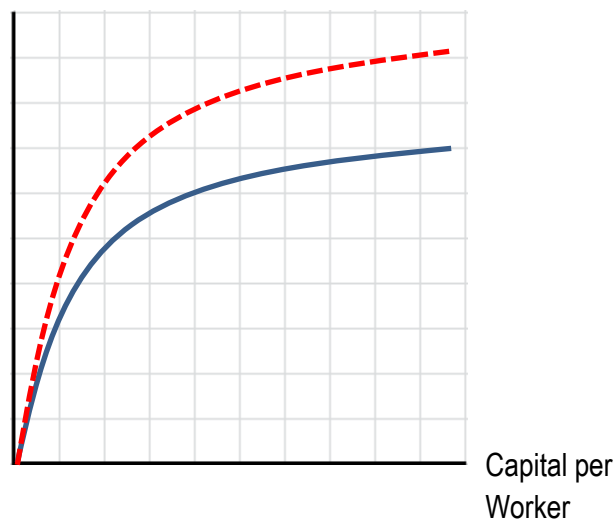
> Each additional unit of input (i.e. capital) leads to a smaller and smaller increase in output

□ In developing countries, there is _____ capital per worker available

> **Catch-up Effect** – poor countries will grow faster than rich countries

- Does catch-up actually occur?
 - For the most part, _____
 - Since 1960, countries with slower economic growth (2-3%) → United States, Switzerland, Australia
 - > Countries that start out rich are sometimes called *leader countries*
 - > Growth is dependent on the development of new technology
 - Since 1960, countries with higher economic growth (4-6%) → Taiwan, Korea, Hong Kong, China
 - > Countries that start out poor are sometimes called *follower countries*
 - > Follower countries can adopt the new technologies of leader countries and grow faster
 - However, some developing countries didn't fit the model (negative growth) → Niger, DR of Congo
- The level of technology can push the per-worker production function _____

Per-worker Production Function: Change in Technology



- Improvements in technology are the *key to sustaining economic growth*