Income Changes The location of the budget line varies with money income. An increase in money income shifts the budget line to the right; a decrease in money income shifts it to the left. To verify this, recalculate the table in Figure 1.1, assuming the card value (income) is (a) $240 and (b) $60, and plot the new budget lines in the graph. No wonder people like to have more income: That shifts their budget lines outward and enables them to buy more goods and services. But even with more income, people will still face spending tradeoffs, choices, and opportunity costs. (Key Question 7)

Society’s Economizing Problem
Society must also make choices under conditions of scarcity. It, too, faces an economizing problem. Should it devote more of its limited resources to the criminal justice system (police, courts, and prisons) or to education (teachers, books, and schools)? If it decides to devote more resources to both, what other goods and services does it forgo? Health care? Energy development?

Scarce Resources
Society has limited or scarce economic resources, meaning all natural, human, and manufactured resources that go into the production of goods and services. This includes the entire set of factory and farm buildings and all the equipment, tools, and machinery used to produce manufactured goods and agricultural products; all transportation and communication facilities; all types of labor; and land and mineral resources.

Resource Categories
Economists classify economic resources into four general categories.

Land Land means much more to the economist than it does to most people. To the economist land includes all natural resources (“gifts of nature”) used in the production process, such as arable land, forests, mineral and oil deposits, and water resources.

Labor The resource labor consists of the physical and mental talents of individuals used in producing goods and services. The services of a logger, retail clerk, machinist, teacher, professional football player, and nuclear physicist all fall under the general heading “labor.”

Capital For economists, capital (or capital goods) includes all manufactured aids used in producing consumer goods and services. Included are all factory, storage, transportation, and distribution facilities, as well as tools and machinery. Economists refer to the purchase of capital goods as investment.

Capital goods differ from consumer goods because consumer goods satisfy wants directly, whereas capital goods do so indirectly by aiding the production of consumer goods. Note that the term “capital” as used by economists refers not to money but to tools, machinery, and other productive equipment. Because money produces nothing, economists do not include it as an economic resource. Money (or money capital or financial capital) is simply a means for purchasing capital goods.

Entrepreneurial Ability Finally, there is the special human resource, distinct from labor, called entrepreneurial ability. The entrepreneur performs several functions:

- The entrepreneur takes the initiative in combining the resources of land, labor, and capital to produce a good or a service. Both a sparkplug and a catalyst, the entrepreneur is the driving force behind production and the agent who combines the other resources in what is hoped will be a successful business venture.
- The entrepreneur makes the strategic business decisions that set the course of an enterprise.
- The entrepreneur is an innovator. He or she commercializes new products, new production techniques, or even new forms of business organization.
- The entrepreneur is a risk bearer. The entrepreneur has no guarantee of profit. The reward for the entrepreneur’s time, efforts, and abilities may be profits or losses. The entrepreneur risks not only his or her invested funds but those of associates and stockholders as well.
Because land, labor, capital, and entrepreneurial ability are combined to produce goods and services, they are called the factors of production, or simply “inputs.”

Production Possibilities Model

Society uses its scarce resources to produce goods and services. The alternatives and choices it faces can best be understood through a macroeconomic model of production possibilities. To keep things simple, let’s initially assume:

* **Full employment** The economy is employing all its available resources.
* **Fixed resources** The quantity and quality of the factors of production are fixed.
* **Fixed technology** The state of technology (the methods used to produce output) is constant.
* **Two goods** The economy is producing only two goods: pizzas and industrial robots. Pizzas symbolize consumer goods, products that satisfy our wants directly; industrial robots (for example, the kind used to weld automobile frames) symbolize capital goods, products that satisfy our wants indirectly by making possible more efficient production of consumer goods.

Production Possibilities Table

A production possibilities table lists the different combinations of two products that can be produced with a specific set of resources, assuming full employment. Table 1.1 presents a simple, hypothetical economy that is producing pizzas and industrial robots; the data are, of course, hypothetical. At alternative A, this economy would be devoting all its available resources to the production of industrial robots (capital goods); at alternative E, all resources would go to pizza production (consumer goods). Those alternatives are unrealistic extremes; an economy typically produces both capital goods and consumer goods, as in B, C, and D. As we move from alternative A to E, we increase the production of pizzas at the expense of the production of industrial robots.

<table>
<thead>
<tr>
<th>Type of Product</th>
<th>Production Alternatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pizzas (in hundred thousands)</td>
<td>A</td>
</tr>
<tr>
<td>Robots (in thousands)</td>
<td>10</td>
</tr>
</tbody>
</table>

Because consumer goods satisfy our wants directly, any movement toward E looks tempting. In producing more pizzas, society increases the current satisfaction of its wants. But there is a cost: More pizzas means fewer industrial robots. This shift of resources to consumer goods catches up with society over time because the stock of capital goods does not expand at the current rate, with the result that some potential for greater future production is lost. By moving toward alternative E, society chooses “more now” at the expense of “much more later.”

By moving toward A, society chooses to forgo current consumption, thereby freeing up resources that can be used to increase the production of capital goods. By building up its stock of capital this way, society will have greater future production and, therefore, greater future consumption. By moving toward A, society is choosing “more later” at the cost of “less now.”

Generalization: At any point in time, a fully employed economy must sacrifice some of one good to obtain more of another good. Scarce resources prohibit such an economy from having more of both goods. Society must choose among alternatives. There is no such thing as a free pizza, or a free industrial robot.

Production Possibilities Curve

The data presented in a production possibilities table are shown graphically as a production possibilities curve. Such a curve displays the different combinations of goods and services that society can produce in a fully employed economy, assuming a fixed availability of supplies of resources and constant technology. We arbitrarily represent the economy’s output of capital goods (here, industrial robots) on the vertical axis and the output of consumer goods (here, pizzas) on the horizontal axis, as shown in Figure 1.2 (Key Graph).

Each point on the production possibilities curve represents some maximum output of the two products. The curve is a “constraint” because it shows the limit of attainable outputs. Points on the curve are attainable as long as the economy uses all its available resources. Points lying inside the curve are also attainable, but they reflect less total output and therefore are not as desirable as points on the curve. Points inside the curve imply that the economy could have more of both industrial robots and pizzas if it achieved full employment of its resources. Points lying beyond the production possibilities curve, like W, would represent a greater output than the output...
The production possibilities curve. Each point on the production possibilities curve represents some maximum combination of two products that can be produced if resources are fully employed. When an economy is operating on the curve, more industrial robots means less pizzas, and vice versa. Limited resources and a fixed technology make any combination of industrial robots and pizzas lying outside the curve (such as at W) unattainable. Points inside the curve are attainable, but they indicate that full employment is not being realized.