Intermediate Microeconomics (Fall 2023)
Lecture 10
Pareto Efficiency

Part I

Pareto Efficiency (also called Economic Efficiency) – One useful _____

for _____ the _____ of

_____.

- **Pareto Improvement** – A way to _____

  _____.

- **Pareto Inefficient** – An _____ that _____

  a _____.

- **Pareto Efficient** – An _____ that

  _____

  are _____.

Example 1

Suppose that renters are assigned to the inner- and outer-ring apartments randomly, but then are allowed to sublet their apartments to each other. Some people who really want to live close in might, through bad luck, end up with an outer-ring apartment. But then they could sublet an inner-ring apartment from someone who is assigned to such an apartment but who does not value it as highly as the other person.

For example, suppose that Person A is assigned an apartment in the inner-ring that he feels is worth \$200, and that there is Person B in the outer-ring who would be willing to pay \$300 for A's apartment. Then there is a _____ if these two agents _____ and arrange a _____ from _____ to _____ of some amount of money _____.

If _____ the voluntary trades are carried out, the allocation is _____ – people who are willing to pay the _____ for the apartments _____ them.
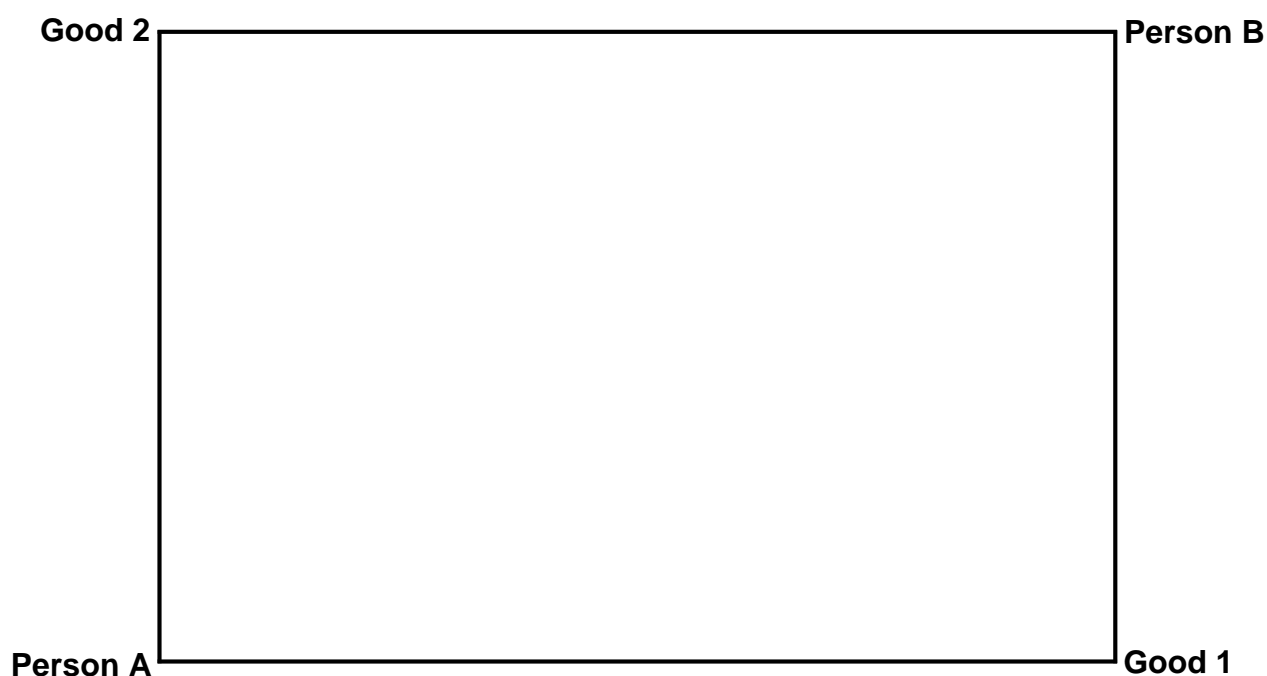
Part II

Pareto Efficient Allocation – There is _____ to make _____ the people involved _____; or there is _____ to make _____ individual _____ making _____.

- **Setting up**

  o _____: _____ and _____

  o _____: _____ and _____

  o Person _____'s consumption bundle: _____

  o Person _____'s consumption bundle: _____

  o _____: A _____ of consumption bundles, _____ and _____

  o _____ allocation: The _____ amount of _____ is _____ to the _____ amount _____

  o _____ allocation: A _____ allocation that the consumers _____, _____ and _____

  ⇒ The amount of _____ that consumers _____ to the _____

  ⇒

  o _____ allocation: A _____ allocation that the consumers _____ with _____ some of the goods with each other

- **Edgeworth Box** – The _____ of the box measures the _____ of _____ in the economy and the _____ measures the _____ of _____. _____'s consumption choices are measured from the _____ corner while _____'s choices are measured from the _____. _____'s _____ are in the _____, but _____'s _____ are _____.

```
Good 2 ┌──────────────────────────────────────────────────┐ Person B
       │                                                  │
       │                                                  │
       │                                                  │
       │                                                  │
       │                                                  │
       │                                                  │
       │                                                  │
       │                                                  │
       │                                                  │
Person A└──────────────────────────────────────────────────┘ Good 1
```

○ _____: _____

Good 2 ┌───┐ **Person B**

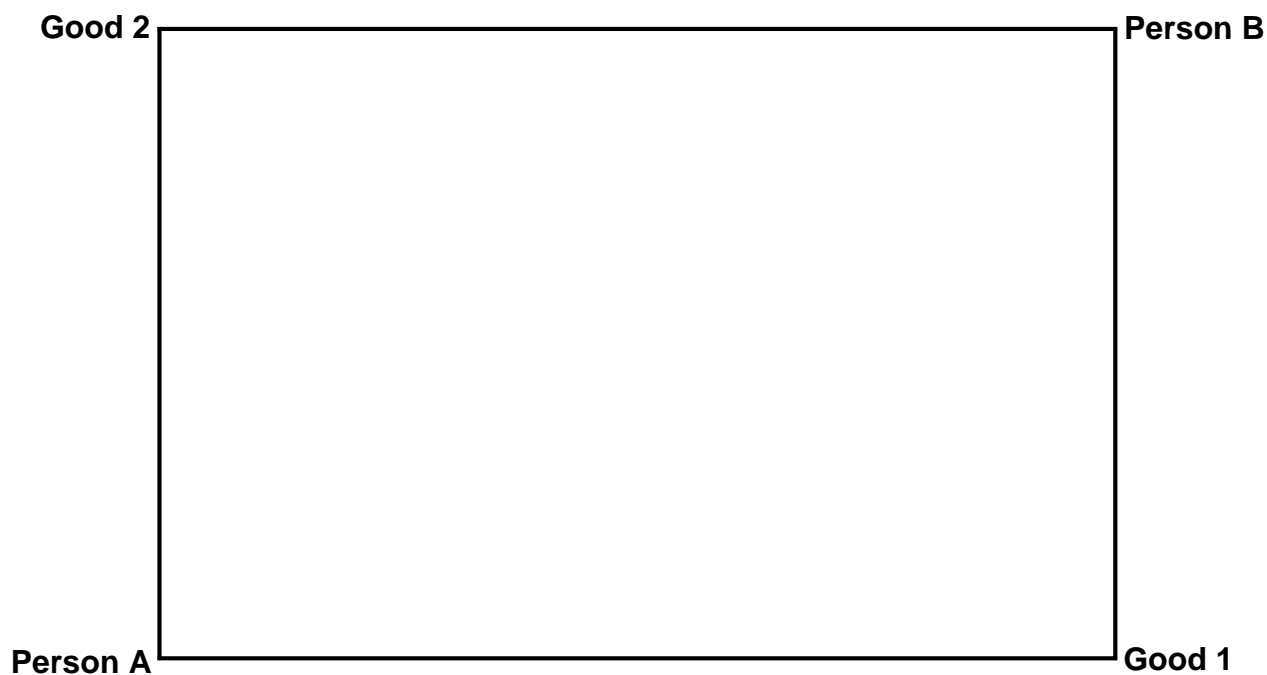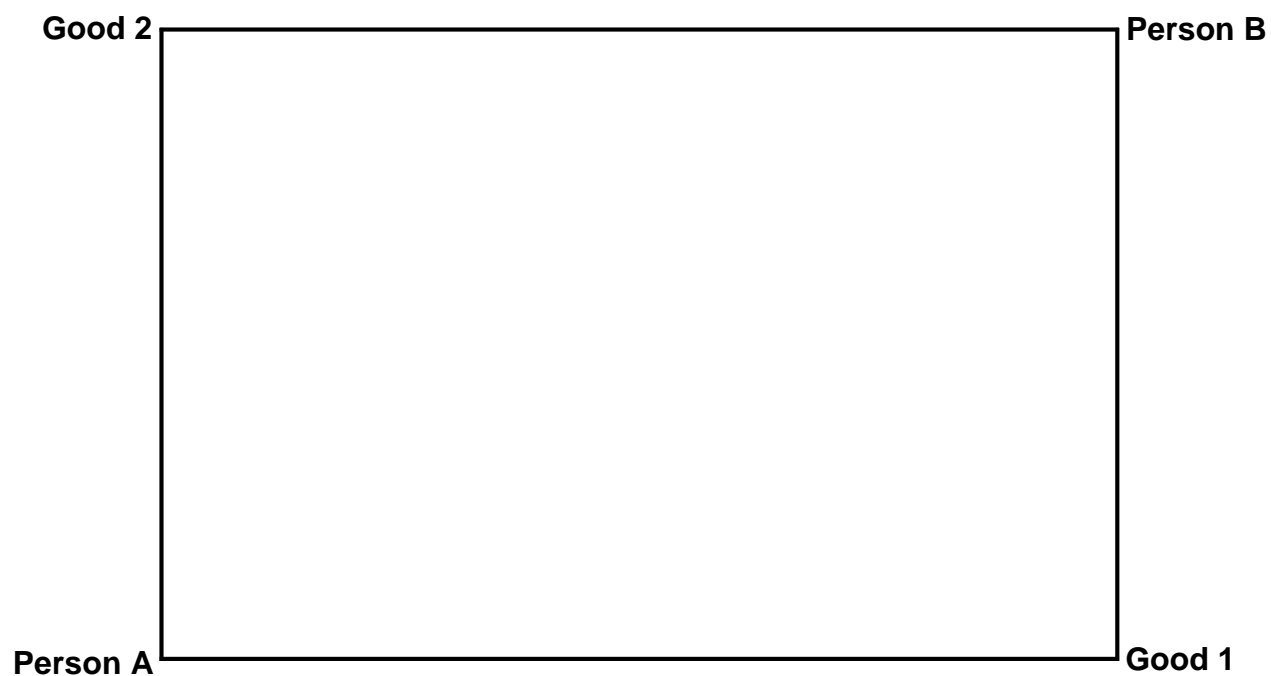**Person A** └───┘ **Good 1**
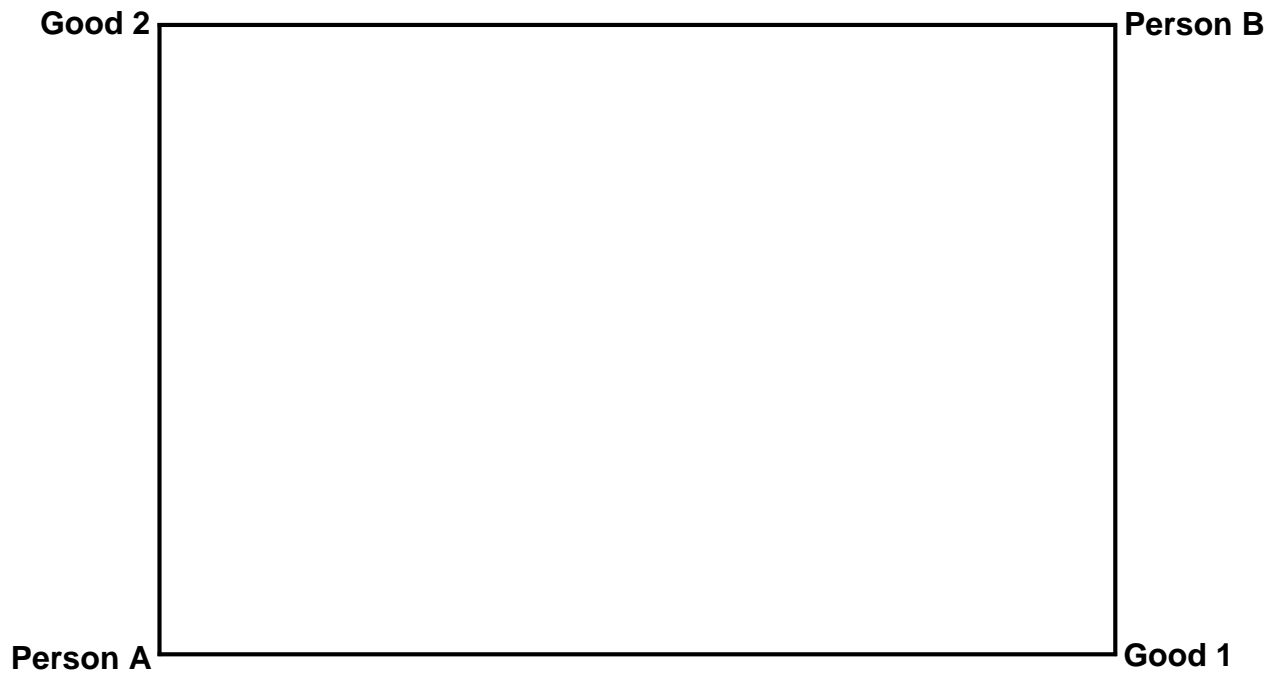
- _____, _____: The _____ of Person _____ and Person _____
  that _____

- The _____: Person _____ and
  Person _____ are _____

- _____: An allocation _____ the
  _____

- From _____ to _____: _____
  - ❖ Person _____ units of Good _____
    _____ units of Good _____
  - ❖ Person _____ units of Good _____
    _____ units of Good _____

- _____
  as long as there are _____ that _____
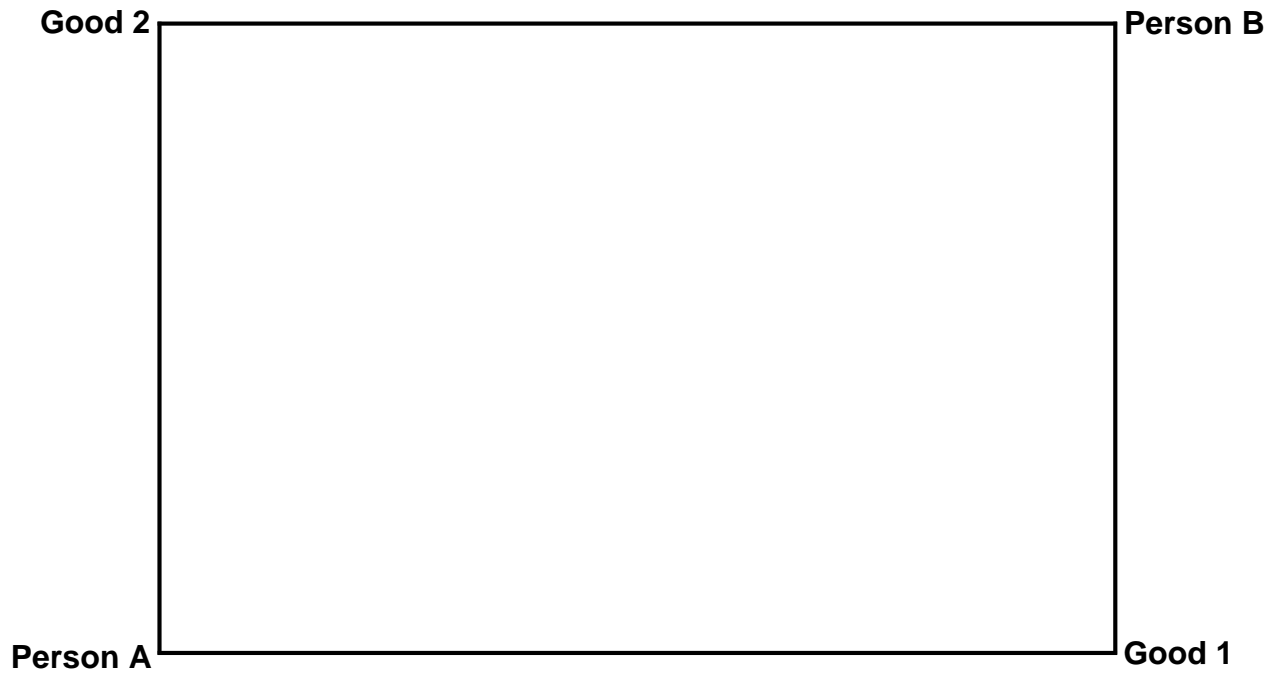 and _____ a lens-shaped region

○ _____: _____

Good 2 ┌───┐ **Person B**
            │   │
            │   │
            │   │
            │   │
            │   │
            │   │
            │   │
            │   │
Person A └───┘ **Good 1**

- _____: _____ is _____ his
  _____, _____
  the _____ of the _____
  ⇒ _____ that makes
  _____ necessarily
  makes the _____
- At _____, consumers have the _____

o **Contract Curve** – The line _____

_____ in the _____.

Good 2 ┌──────────────────────────────────┐ **Person B**
│   │
│   │
│   │
│   │
│   │
│   │
│   │
│   │
Person A └──────────────────────────────────┘ **Good 1**

o **Market Equilibrium** – A set of _____ such that

_____ the

_____, and

_____ are _____

in the sense that _____

in _____: _____.

Good 2 (top-left corner), Person B (top-right corner), Person A (bottom-left corner), Good 1 (bottom-right corner)

- ▪ _____ for _____:

_____

- ▪ _____ of Each Person's _____ = _____

- ▪ The _____ of each person is the _____ of _____:

_____

- ▪ At _____:

_____

⇒ The _____ of a _____

that a _____ to _____

must be _____ to the _____

that the _____

to _____

Example 2: Shadow price

Meanwhile, at the _____

_____

⇒ The _____ in the _____

_____

⇒ The _____ of the Lagrange multipliers at the _____

_____ are _____

⇒ Shadow Price – The _____

to an _____ or _____

which _____

from which to _____ a _____.

⇒ Shadow price puts a _____ on the _____

⇒ A measure of the _____

of _____ the _____