general equilibrium
in a pure exchange economy

- introduction
- feasible allocations
- Edgeworth box
  - examples
  - Pareto optimality
  - core
  - walrasian equilibrium

introduction

- where do prices come from?
- partial equilibrium: 1 market, demand=supply
- markets interact
- general equilibrium: all markets simultaneously

pure exchange economy

- no production
- 2 agents: A and B
- 2 goods: 1 and 2
- can be generalized to N agents and L goods

- each consumer has a preference relation that can be represented by a utility function u^i
- each consumer has an endowment of the goods represented by $\omega^i = (\omega_1^i, \omega_2^i)$, i=A,B

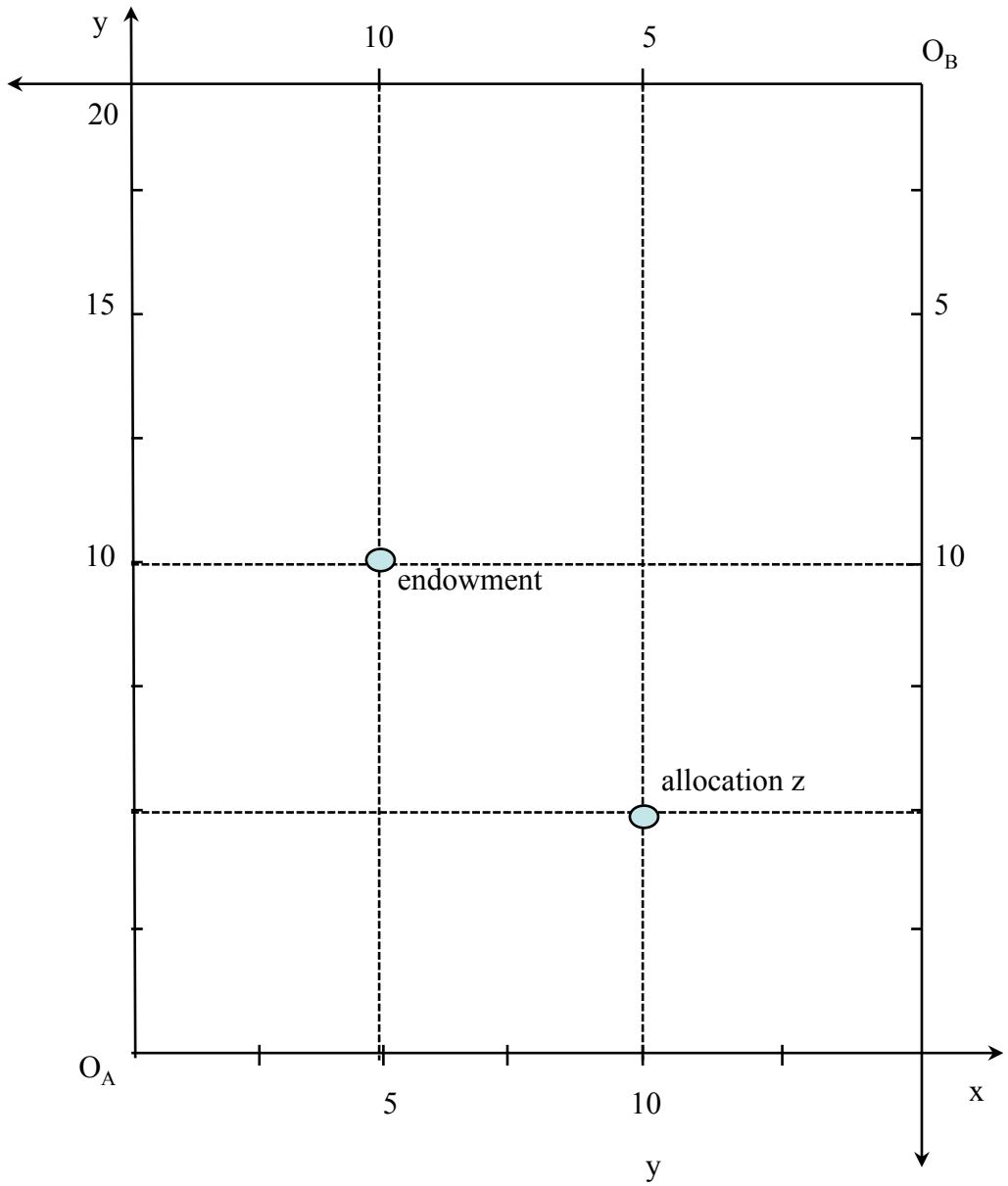
feasible allocation

- a feasible allocation $x_1^A, x_2^A, x_1^B, x_2^B$ is such that
  - $x_1^A + x_1^B = \omega_1^A + \omega_1^B$
  - $x_2^A + x_2^B = \omega_2^A + \omega_2^B$

- Edgeworth box representation

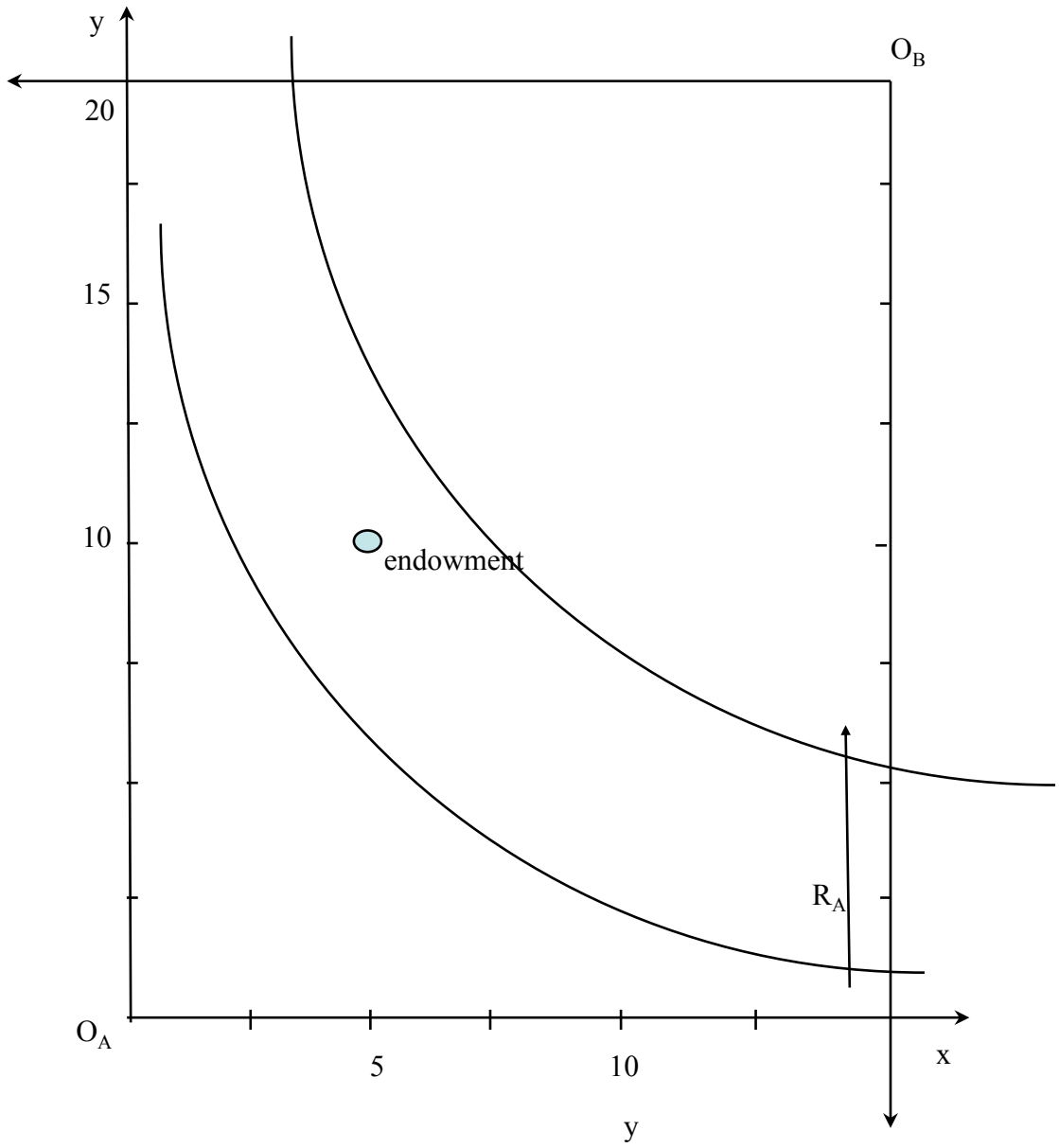
Edgeworth box

- feasible allocations



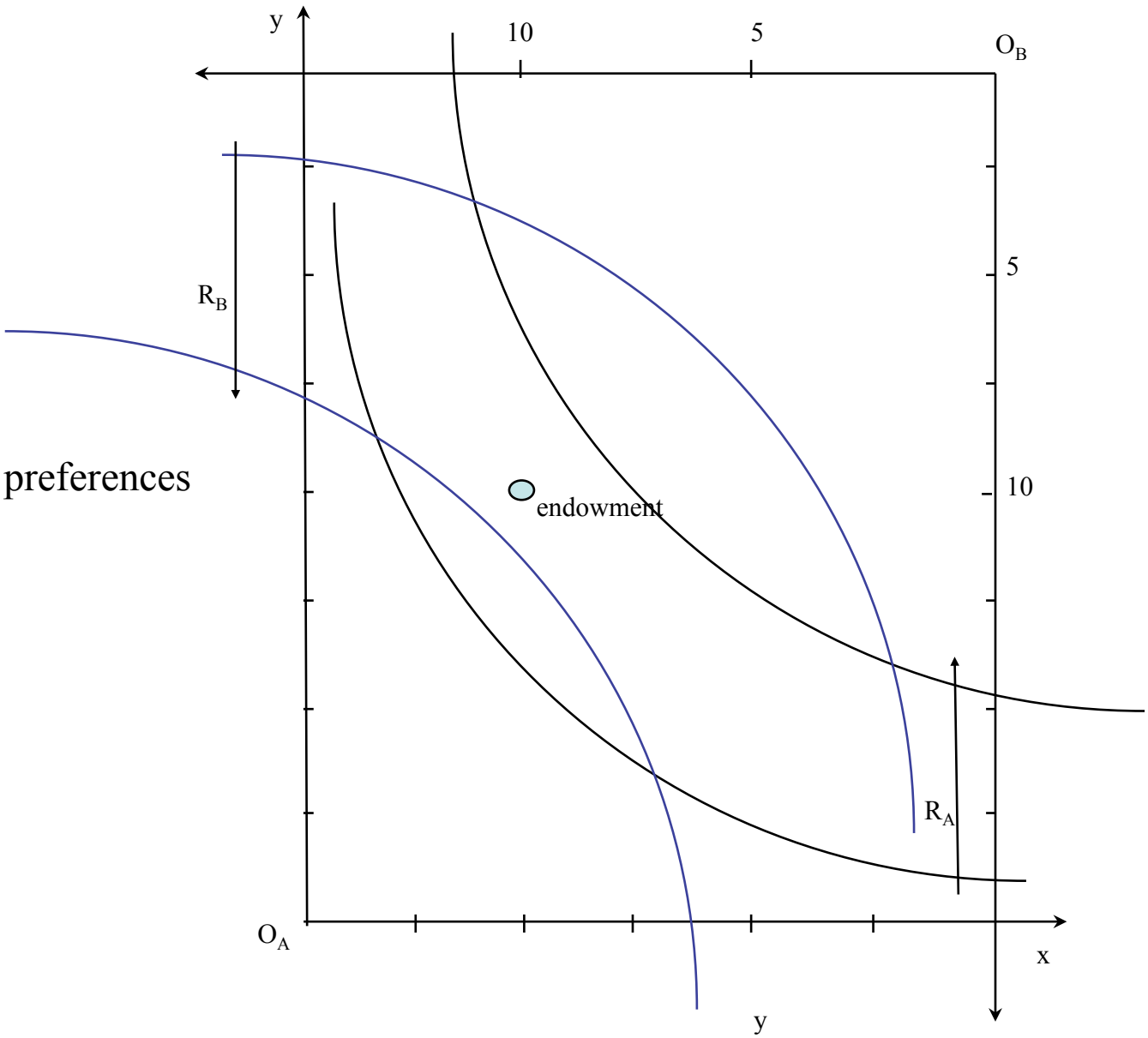
Edgeworth box

- adding agent A's preferences



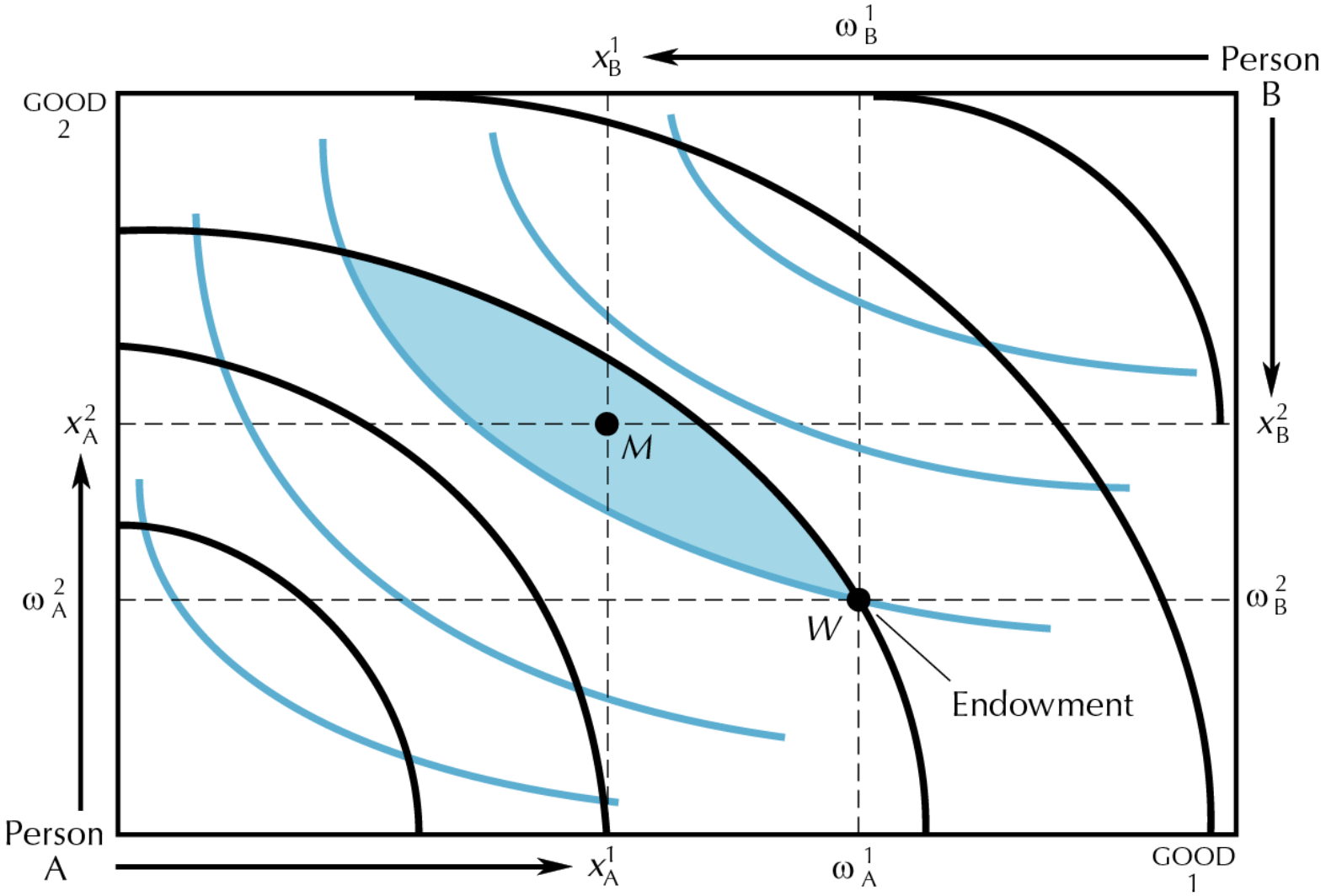
Edgeworth box

- adding agent B's preferences



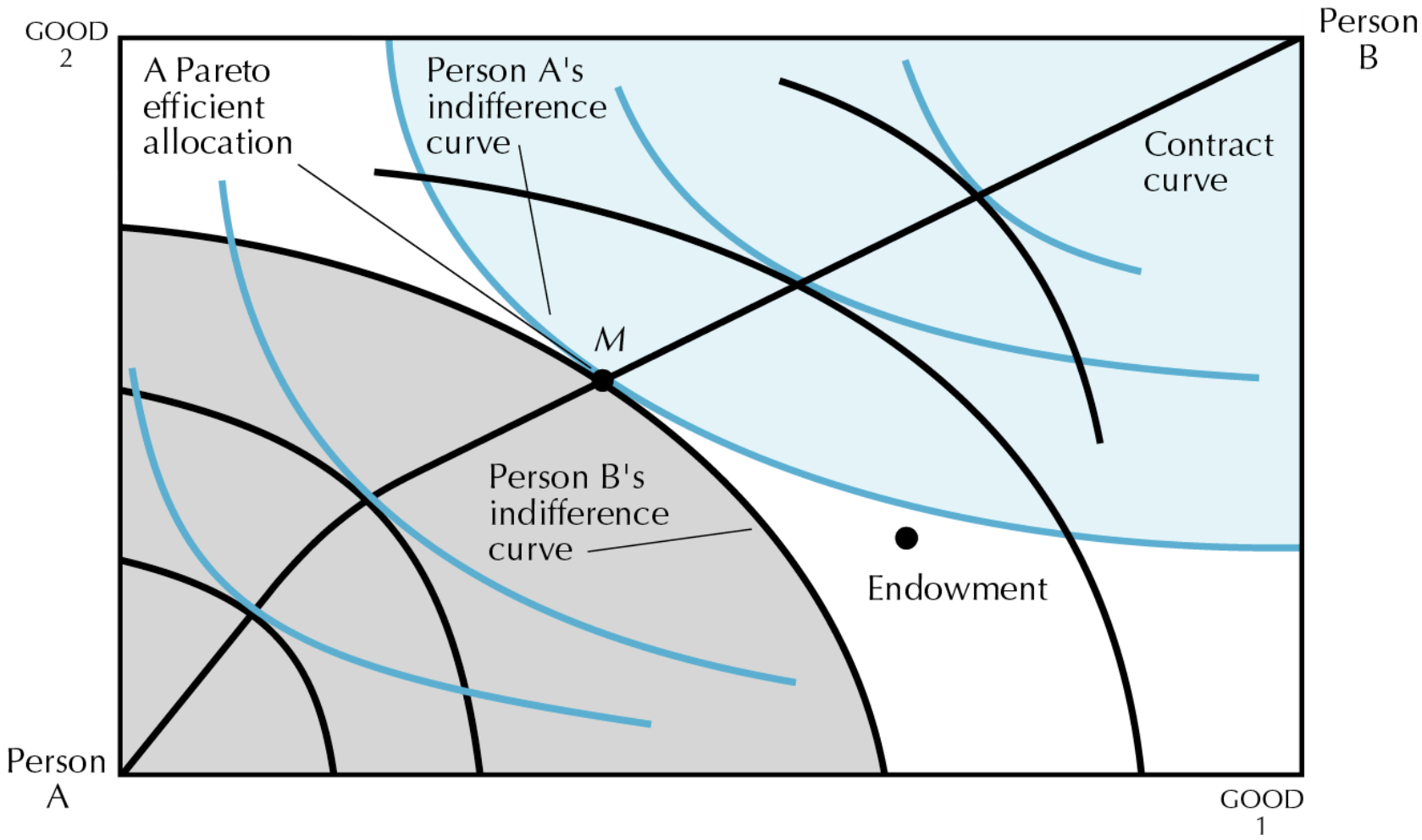
Edgeworth box

- Pareto improvements from the endowment: mutual advantages



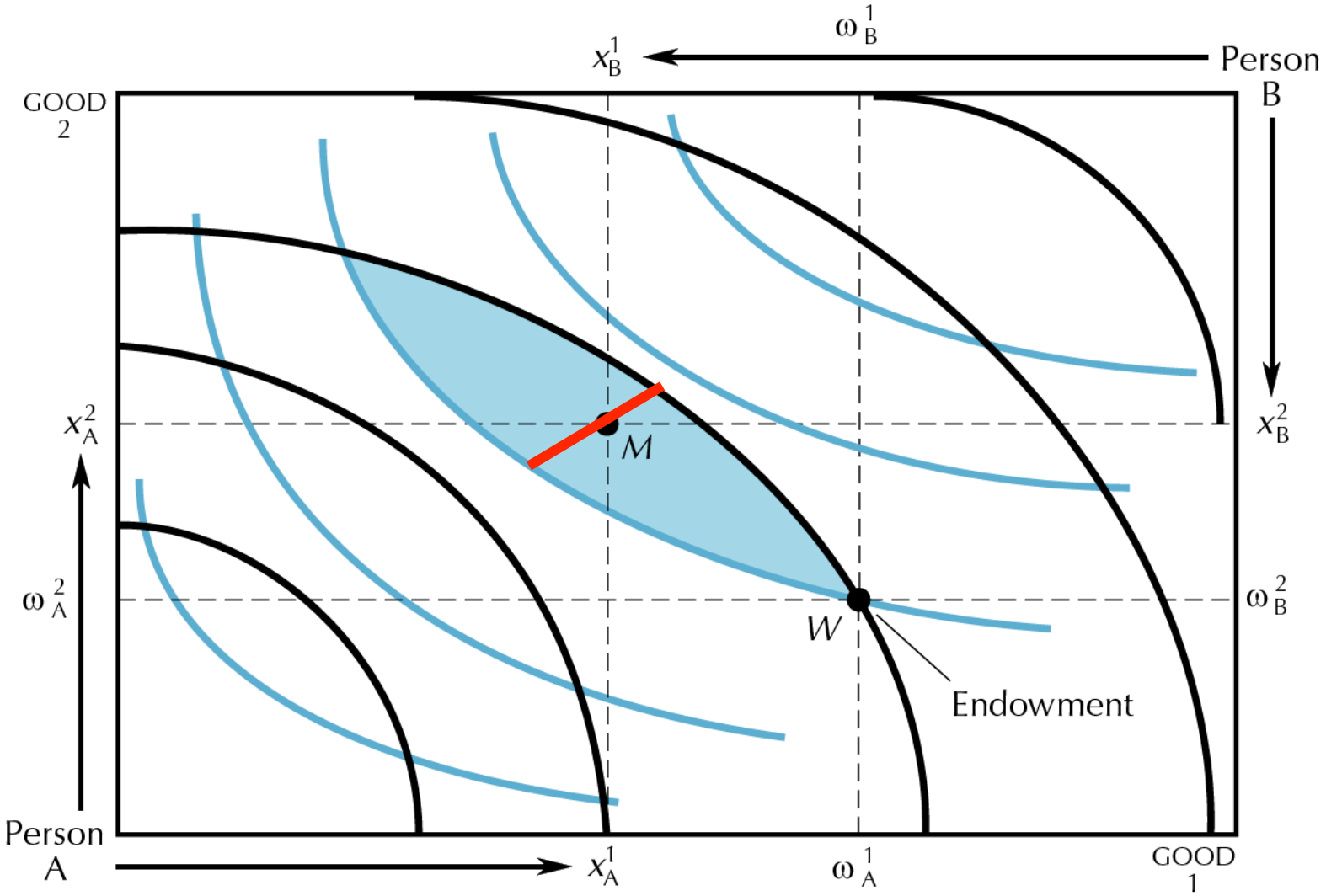
Edgeworth box

- Pareto efficiency: contract curve



Edgeworth box

- core: mutual advantages + Pareto



Edgeworth box

- 2-good, 2-agent case: walrasian equilibrium